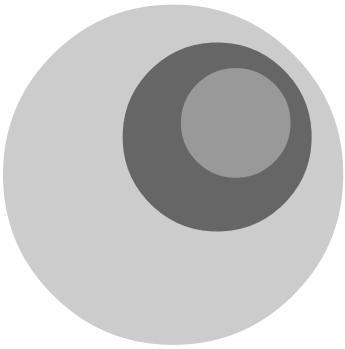
Roland

HI-FI JET PRO

HIGH FIDELITY 8 COLOR INKJET PRINTER



FJ-600 ∗ FJ-500 ∗ FJ-400

USER'S MANUAL

* This User's Manual is intended for FJ-600, FJ-500 and FJ-400.

Thank you very much for purchasing the FJ-600/500/400.

- To ensure correct and safe usage with a full understanding of this product's performance, please be sure to read through this manual completely and store it in a safe location.
- Unauthorized copying or transferral, in whole or in part, of this manual is prohibited.
- The contents of this operation manual and the specifications of this product are subject to change without notice.
- The operation manual and the product have been prepared and tested as much as possible. If you find any misprint or error, please inform us.
- Roland DG Corp. assumes no responsibility for any direct or indirect loss or damage which may occur through use of this product, regardless of any failure to perform on the part of this product.
- Roland DG Corp. assumes no responsibility for any direct or indirect loss or damage which may occur with respect to any article made using this product.

Roland DG Corporation

For the USA

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Unauthorized changes or modification to this system can void the users authority to operate this equipment.

The I/O cables between this equipment and the computing device must be shielded.

For Canada

CLASS A NOTICE

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

CLASSE A AVIS

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

NOTICE

Grounding Instructions

Do not modify the plug provided - if it will not fit the outlet, have the proper outlet installed by a qualified electrician.

Check with qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded.

Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool's plug.

Repair or replace damaged or worn out cord immediately.

CE

ROLAND DG CORPORATION
1-6-4 Shinmiyakoda, Hamamatsu-shi, Shizuoka-ken, JAPAN 431-2103
MODEL NAME : See the MODEL given on the rating plate.
RELEVANT DIRECTIVE : EC MACHINERY DIRECTIVE (89/392/EEC)
EC LOW VOLTAGE DIRECTIVE (73/23/EEC)
EC ELECTROMAGNETIC COMPATIBILITY DIRECTIVE (89/336/EEC)

WARNING

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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To Ensure Safe Use

About ⚠WARNING and ⚠CAUTION Notices

⚠WARNING	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly.
⚠CAUTION	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. * Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

About the Symbols

	The △ symbol alerts the user to important instructions or warnings. The specific meaning of the symbol is determined by the design contained within the triangle. The symbol at left means "danger of electrocution."
	The ⃠ symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. The symbol at left means the unit must never be disassembled.
	The ● symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. The symbol at left means the power-cord plug must be unplugged from the outlet.

⚠WARNING

Do not disassemble, repair, or modify.
Doing so may lead to fire or abnormal operation resulting in injury.

Ground the unit with the ground wire.
Failure to do so may result in risk of electrical shock in the even of a mechanical problem.

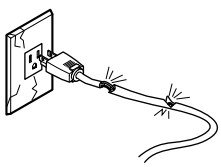
Use only with the power cord included with this product.
Use with other than the included power cord may lead to fire or electrocution.

Use only with a power supply of the same rating as indicated on the unit.
Use with any other power supply may lead to fire or electrocution.

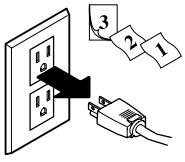
Do not use while in an abnormal state (i.e., emitting smoke, burning odor, unusual noise, or the like).
Doing so may result in fire or electrical shock.
Immediately switch off first the sub power, then the main power, unplug the power cord from the electrical outlet, and contact your authorized Roland DG Corp. dealer or service center.

⚠CAUTION

Do not use with a damaged power cord or plug, or with a loose electrical outlet.
Use with any other power supply may lead to fire or electrocution.

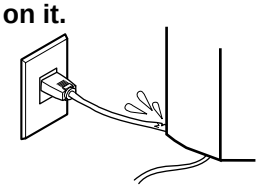


When not in use for extended periods, unplug the power cord from the electrical outlet.
Failure to do so may result in danger of shock, electrocution, or fire due to deterioration of the electrical insulation.

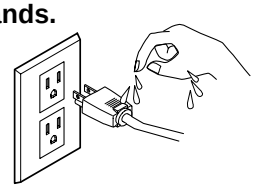


⚠CAUTION

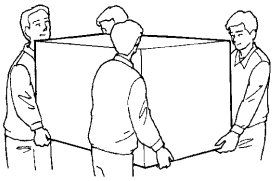
Do not injure or modify the electrical power cord, nor subject it to excessive bends, twists, pulls, binding, or pinching, nor place any object of weight on it.
Doing so may damage the electrical power cord, leading to electrocution or fire.



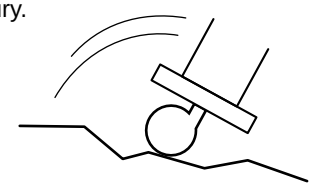
Do not attempt to unplug the power cord with wet hands.
Doing so may result in electrical shock.



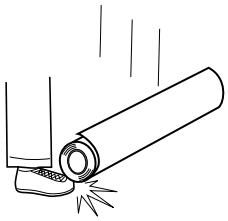
Unpacking, installation, and moving must be carried out by four or more persons.
Otherwise the machine or the stand may fall, resulting in injury.
(The total weight of the package is 176 kg (388 lb.) for the FJ-600, 166 kg (365.9 lb.) for the FJ-500, and 154 kg (339.5 lb.) for the FJ-400.)



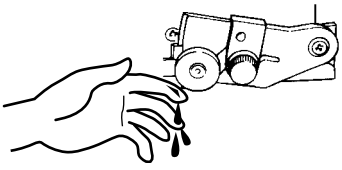
Install in a level and stable location.
Otherwise the unit may tip over and cause injury.



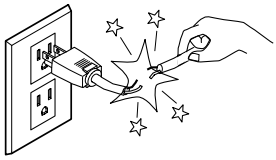
Load roll material at the proper position.
Otherwise the roll may fall, resulting in injury.



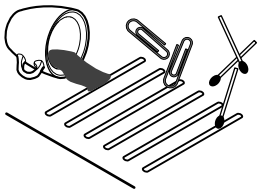
Do not touch the tip of the separating knife with your fingers.
Doing so may result in injury.



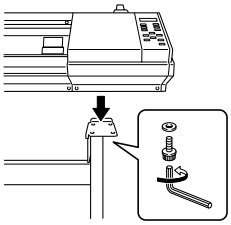
When unplugging the electrical power cord from the power outlet, grasp the plug, not the cord.
Unplugging by pulling the cord may damage it, leading to fire or electrocution.



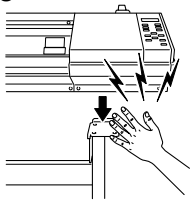
Do not allow liquids, metal objects or flammables inside the machine.
Such materials can cause fire.



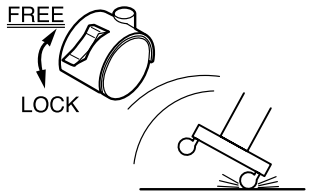
Use the joining screws to secure the unit to the stand.
Failure to do so may result in falling of the unit, leading to injury.



Use care to avoid pinching the fingers when placing the unit on the stand.
Doing so may result in injury.



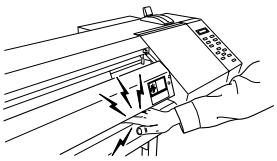
Release the caster locks for the stand before attempting to move.
Otherwise the unit may tip over and cause injury.



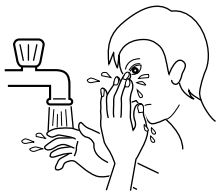
Make sure the power to the unit is off before attempting to replace the separating knife.
Doing so may result in injury.

⚠CAUTION

Do not place hands within the space to the front of the unit while in operation.
Doing so may result in injury.

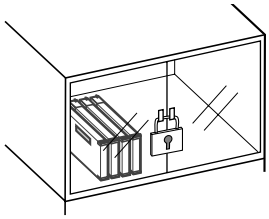


If ink contacts the eyes, flush immediately with water.



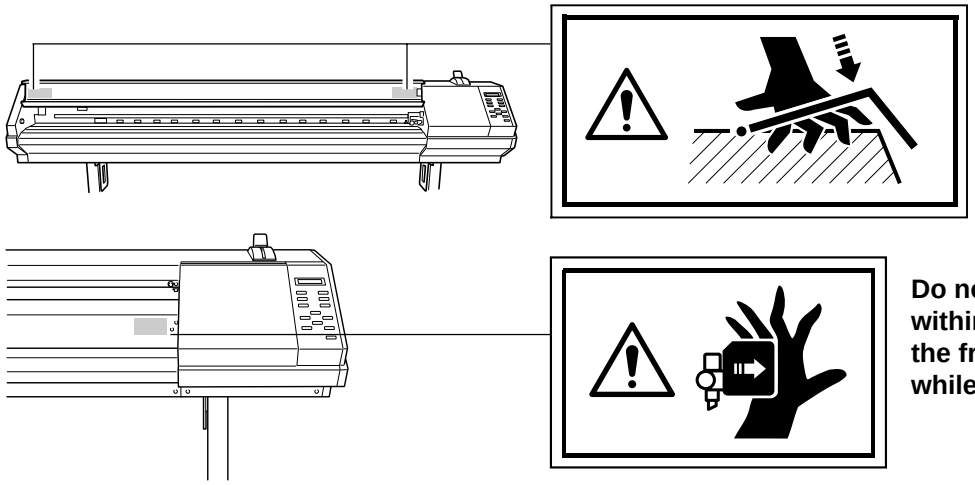
When closing the front cover, be careful not to pinch your fingers.
Doing so may result in injury.

Store ink cartridges out of the reach of children.



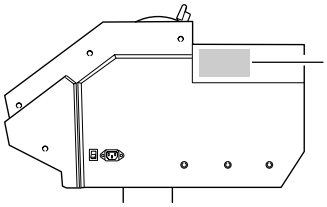
About the Labels Affixed to the Unit

These labels are affixed to the body of this product.
The following figure describes the location and content of these messages.



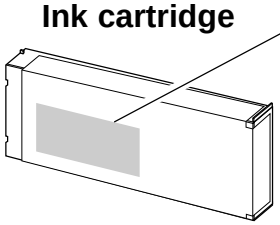
When closing the front cover, be careful not to pinch your fingers.

Do not place hands within the space to the front of the unit while in operation.



Model name
Rating label
Use a rated power supply.

Ink cartridge



Do not dismantle the cartridge.
Keep out of reach of children.
Do not store the cartridge in high or freezing temperatures.

In addition to the ⚠**WARNING** and ⚠**CAUTION** symbols, the symbols shown below are also used.

NOTICE : Indicates information to prevent machine breakdown or malfunction and ensure correct use.

: Indicates a handy tip or advice regarding use.

Pour utiliser en toute sécurité

Avis sur les avertissements

⚠ATTENTION	Utilisé pour avertir l'utilisateur d'un risque de décès ou de blessure grave en cas de mauvaise utilisation de l'appareil.
⚠PRUDENCE	Utilisé pour avertir l'utilisateur d'un risque de blessure ou de dommage matériel en cas de mauvaise utilisation de l'appareil. * Par dommage matériel, il est entendu dommage ou tout autre effet indésirable sur la maison, tous les meubles et même les animaux domestiques.

À propos des symboles

	Le symbole △ attire l'attention de l'utilisateur sur les instructions importantes ou les avertissements. Le sens précis du symbole est déterminé par le dessin à l'intérieur du triangle. Le symbole à gauche signifie "danger d'électrocution".
	Le symbole ⃠ avertit l'utilisateur de ce qu'il ne doit pas faire, ce qui est interdit. La chose spécifique à ne pas faire est indiquée par le dessin à l'intérieur du cercle. Le symbole à gauche signifie que l'appareil ne doit jamais être démonté.
	Le symbole ● prévient l'utilisateur sur ce qu'il doit faire. La chose spécifique à faire est indiquée par le dessin à l'intérieur du cercle. Le symbole à gauche signifie que le fil électrique doit être débranché de la prise.

⚠ATTENTION

Ne pas démonter, réparer ou modifier.
Le non-respect de cette consigne pourrait causer un incendie ou provoquer des opérations anormales entraînant des blessures.

Mettre l'appareil à la masse avec une prise de terre.
Le non-respect de cette consigne pourrait entraîner des décharges électriques en cas de problème mécanique.

N'utilisez que le cordon d'alimentation fourni avec ce produit.
L'utilisation avec un autre cordon d'alimentation que celui fourni pourrait entrainer un risque d'incendie ou d'électrocution.

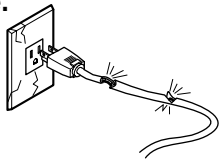
Utiliser seulement avec une alimentation de mêmes caractéristiques électriques que celles indiquées sur l'appareil.
Une négligence à ce niveau pourrait provoquer un incendie ou une électrocution.

Ne pas utiliser si l'appareil est dans un état anormal (c'est-à-dire s'il y a émission de fumée, odeur de brûlé, bruit inhabituel etc.).
Le non-respect de cette consigne pourrait provoquer un incendie ou des décharges électriques.
Couper immédiatement l'alimentation secondaire et ensuite l'alimentation principale. Débranchez le fil électrique et contacter votre revendeur ou votre centre de service de la société Roland DG autorisé.

⚠PRUDENCE

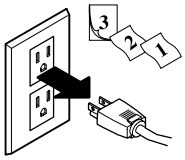
Ne pas utiliser avec une fiche ou un fil électrique endommagé ou avec une prise mal fixée.

Une négligence à ce niveau pourrait provoquer un incendie ou une électrocution.



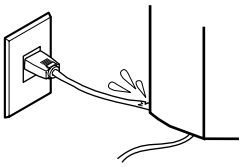
Débrancher le fil lorsque l'appareil reste inutilisé pendant une longue période.

Une négligence à ce niveau pourrait provoquer des décharges électriques, une électrocution ou un incendie dû à une détérioration de l'isolation électrique.



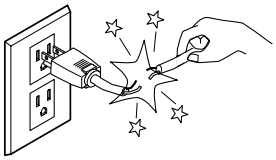
Ne pas endommager ou modifier le fil électrique. Ne pas le plier, le tordre, l'étirer, l'attacher ou le serrer de façon excessive. Ne pas mettre d'objet ou de poids dessus.

Une négligence à ce niveau pourrait endommager le fil électrique ce qui risquerait de provoquer une électrocution ou un incendie.



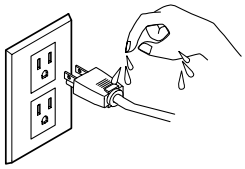
Saisir la fiche et non le fil électrique lorsque vous débranchez.

Débrancher en tirant sur le fil pourrait l'endommager et risquer de provoquer un incendie ou une électrocution.



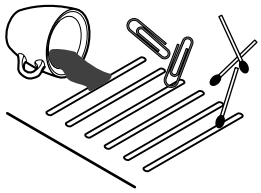
Ne pas essayer de débrancher le fil avec des mains mouillées.

Une négligence à ce niveau pourrait provoquer des décharges électriques.



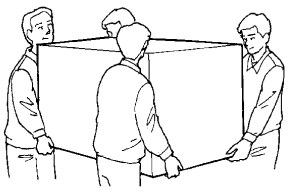
Ne pas introduire de liquide, d'objet métallique ou inflammable dans l'appareil.

Ce genre de matériel peut provoquer un incendie.



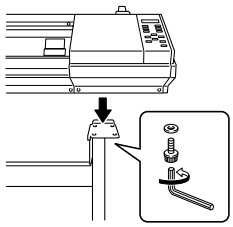
Le déballage, l'installation et le déplacement de l'appareil doivent être effectués par quatre personnes ou plus.

Le non-respect de cette consigne pourrait causer des défauts dans l'appareil entraînant des blessures.
(Le poids total de la boîte emballée est 176 kg [FJ-600], 166 kg [FJ-500] ou 154 kg [FJ-400].)



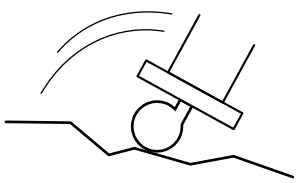
Utiliser les vis fournies pour bien fixer l'appareil sur le support.

Le non-respect de cette consigne pourrait causer des défauts dans l'appareil entraînant des blessures.



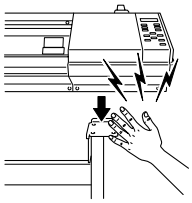
Installer dans un endroit stable et de niveau.

Sinon l'appareil pourrait se renverser et provoquer des blessures.



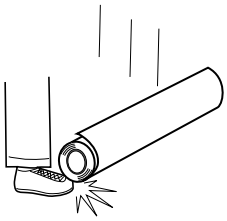
Manipuler avec précaution pour éviter de se coincer les doigts lors de l'installation de l'appareil sur le support.

Une négligence à ce niveau pourrait provoquer des blessures.

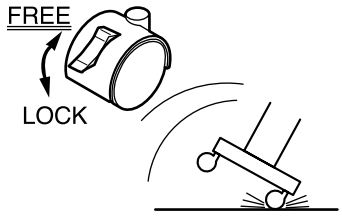


⚠PRUDENCE

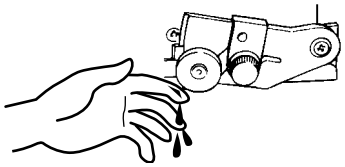
Le rouleau doit être placé à une position adéquate.
Une négligence à ce niveau pourrait provoquer la chute du rouleau et causer des blessures.



Débloquer le mécanisme d'arrêt des roulettes du support avant de le déplacer.
Sinon l'appareil pourrait se renverser et provoquer des blessures.

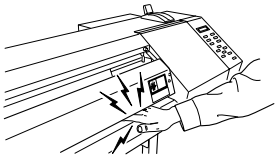


Ne pas toucher le bout de la lame séparatrice avec les doigts.
Une négligence à ce niveau pourrait provoquer des blessures.

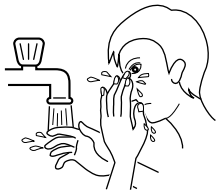


S'assurer que l'appareil est hors tension avant d'essayer de remplacer la lame séparatrice.
Une négligence à ce niveau pourrait provoquer des blessures.

Ne pas mettre les mains dans l'espace du devant quand l'appareil est en marche.
Une négligence à ce niveau pourrait provoquer des blessures.

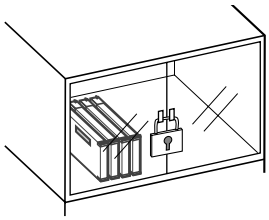


Si de l'encre entre en contact avec les yeux, rincer immédiatement à l'eau.



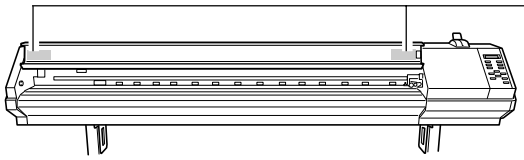
Manipuler avec précaution pour éviter de se coincer les doigts lors de la fermeture du couvercle de devant.
Une négligence à ce niveau pourrait provoquer des blessures.

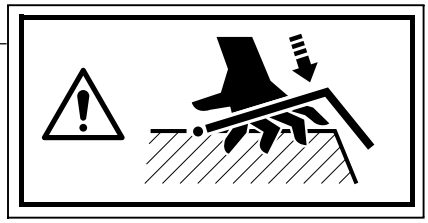
Ranger les cartouches d'encre hors de portée des enfants.



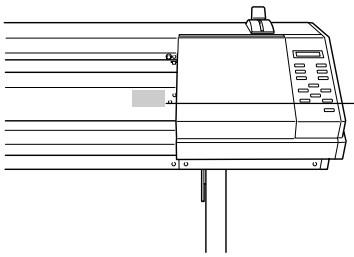
À propos des étiquettes collées sur l'appareil

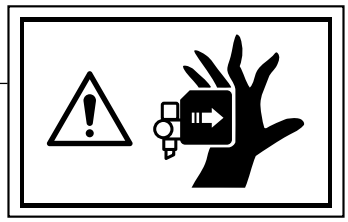
Ces étiquettes sont collées à l'extérieur de l'appareil.
Les dessins suivants indiquent l'endroit et le contenu des messages.



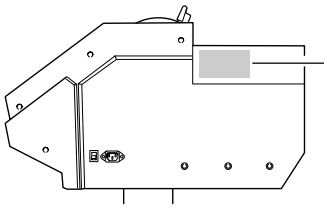


Manipuler avec précaution pour éviter de se coincer les doigts lors de la fermeture du couvercle de devant.



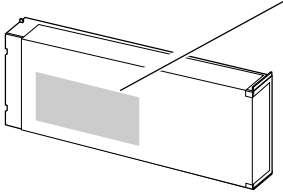


Ne pas mettre les mains dans l'espace devant l'élément quand celui-ci est en marche.



Nom du modèle
Étiquette des caractéristiques électriques
Utiliser l'alimentation appropriée

la cartouche d'encre



Ne pas démonter la cartouche.
Conserver hors de la portée des enfants.
Ne pas emmagasiner á das températures hautes ou basses.

1 Introduction

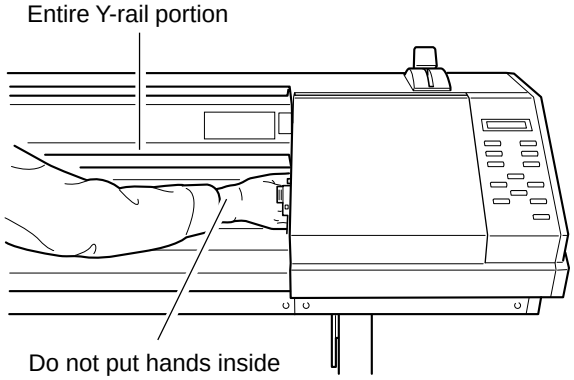
* In this manual, sections that explain commons points for the FJ-600/500/400 use only illustrations of the FJ-500. Some details of the FJ-600 or FJ-400 differ from the figure.

1-1 Part Names

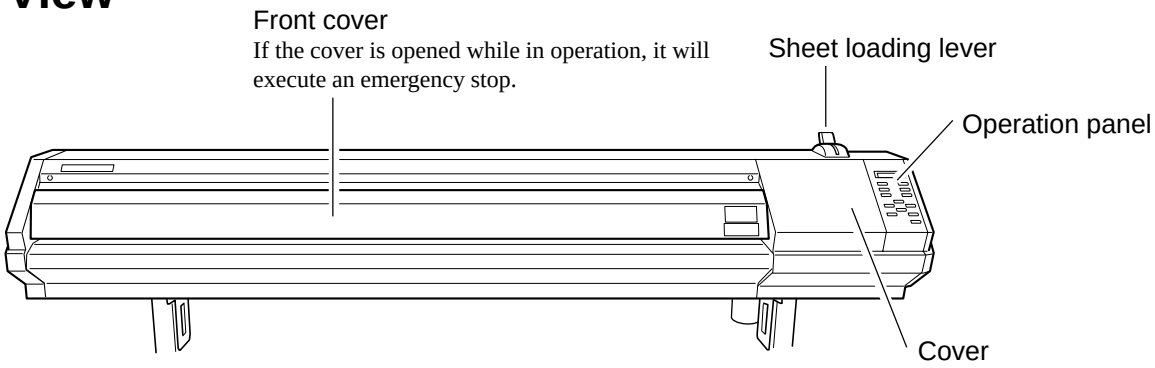
NOTICE

If you will leave the printing head being uncapped for a long time (for example, open the front cover while printing is made on the middle of platen), printing heads may get clogging and, in some case it results unrecoverable damage to the printing head.

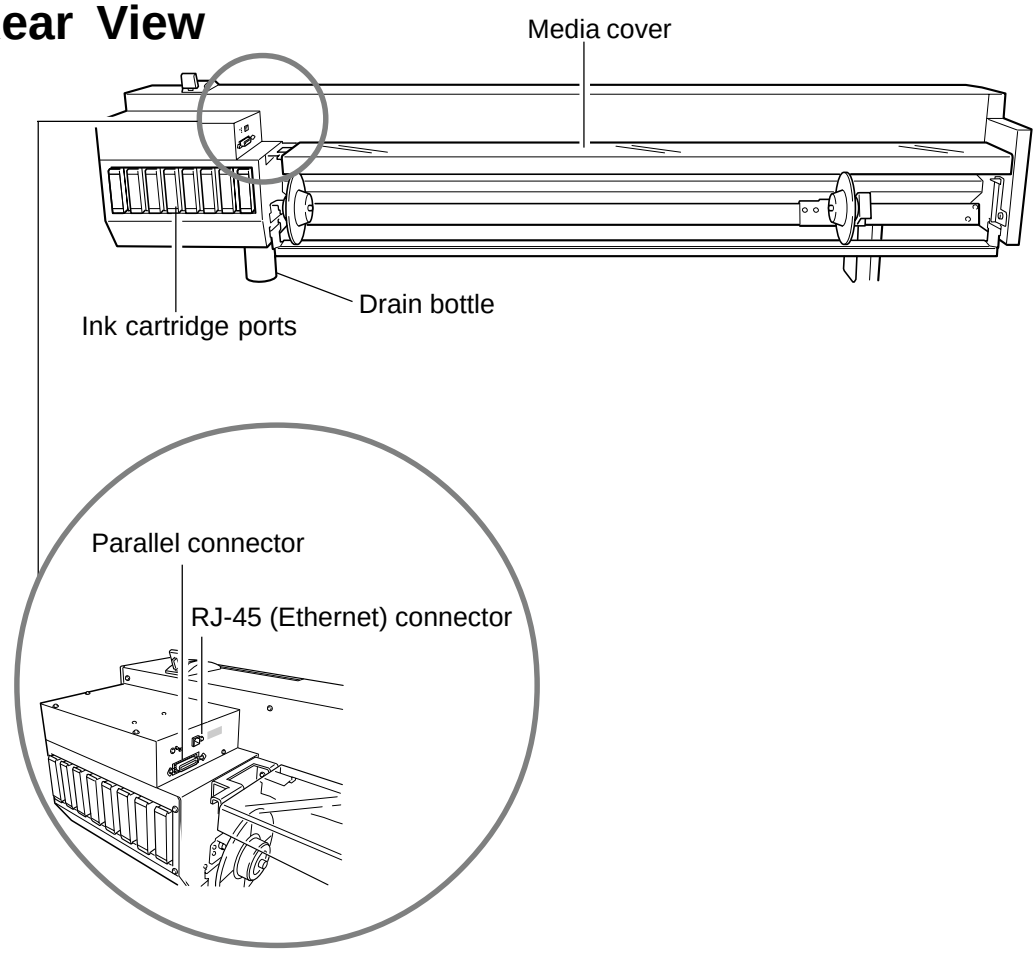
Do not touch the Y rail or the inner side of the right cover.
Touching the area shown may cause the fingers to be soiled by grease or ink, and may result in diminished image quality.



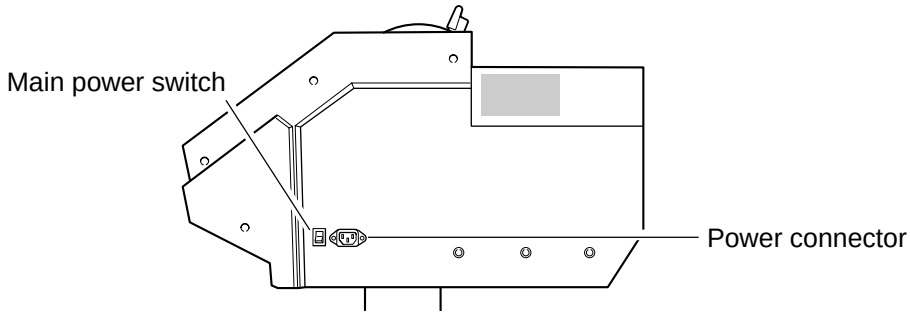
Front View


Front cover
If the cover is opened while in operation, it will execute an emergency stop.
Sheet loading lever
Operation panel
Cover

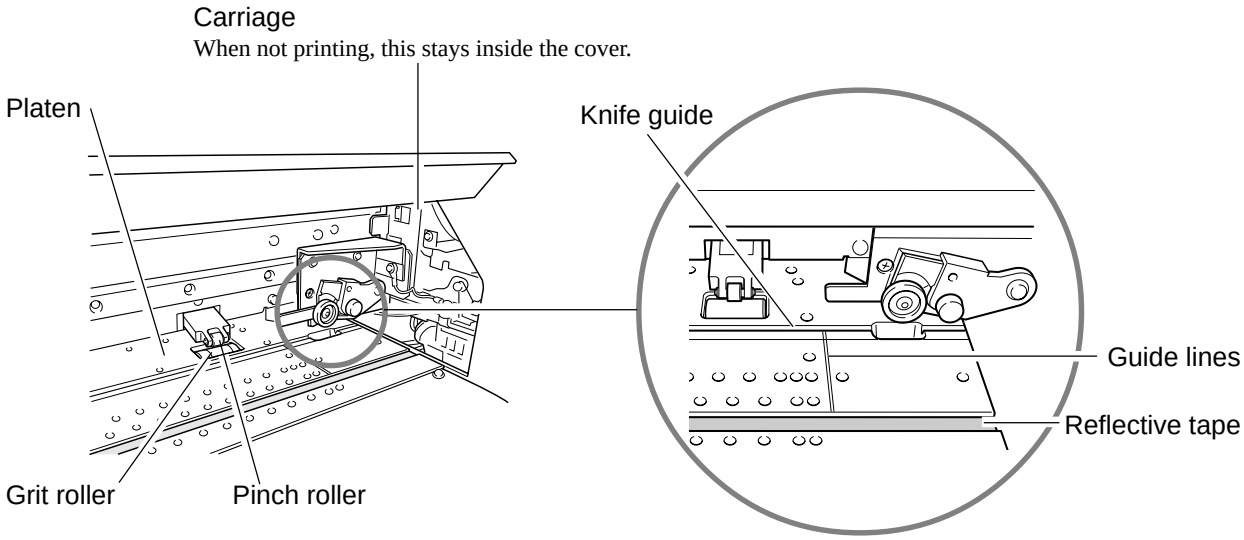
Rear View



Side View

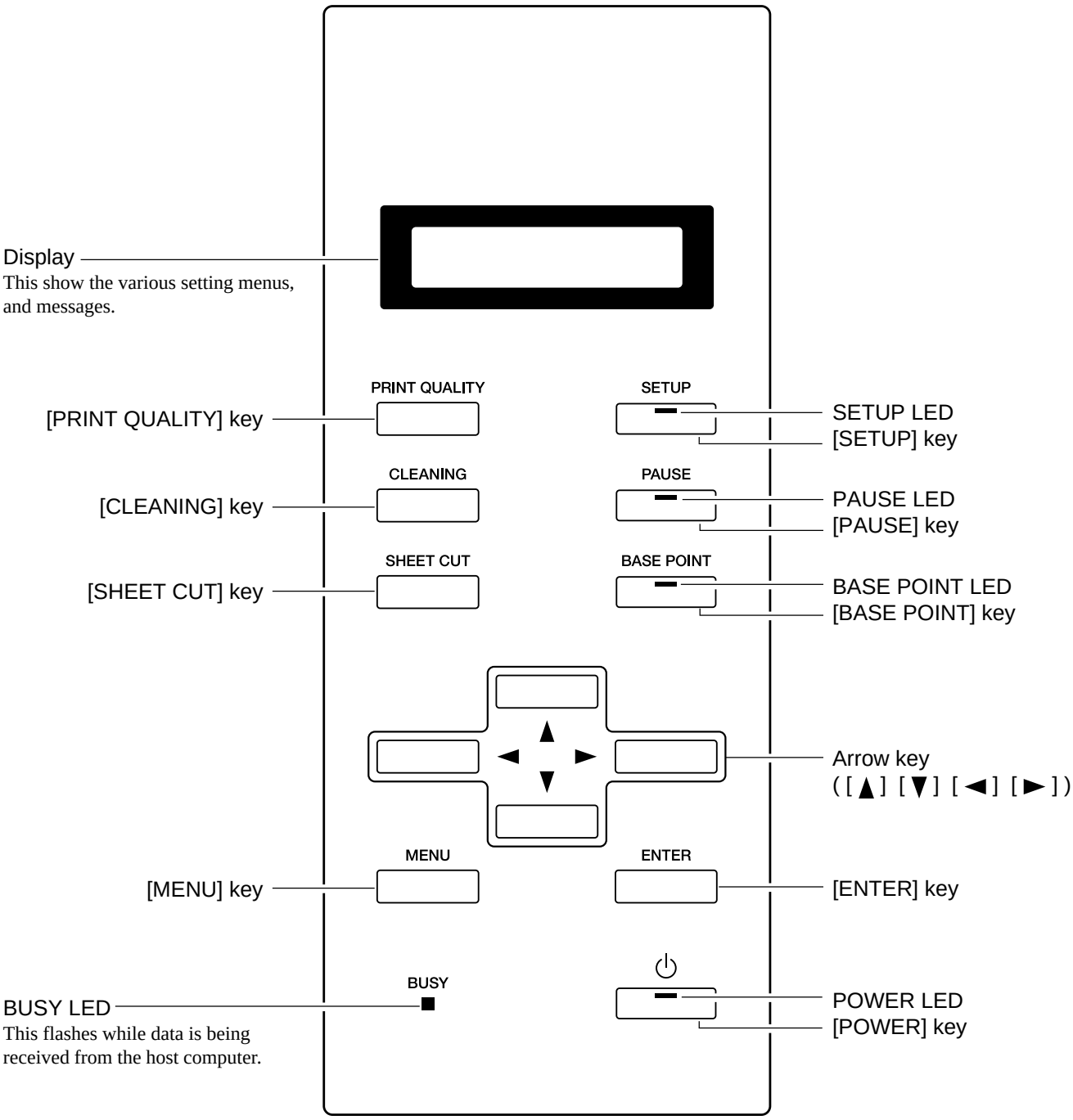


Inside the Front Cover



Operation Panel

For more information about the keys, take a look at "4-5 Description of Keys and Display Menus".



1-2 Making the Connections

⚠WARNING

Use only with a power supply of the same rating as indicated on the unit.
Use with any other power supply may lead to fire or electrocution.

Use only with the power cord included with this product.
Use with other than the included power cord may lead to fire or electrocution.

Ground the unit with the ground wire.
Failure to do so may result in risk of electrical shock in the even of a mechanical problem

NOTICE

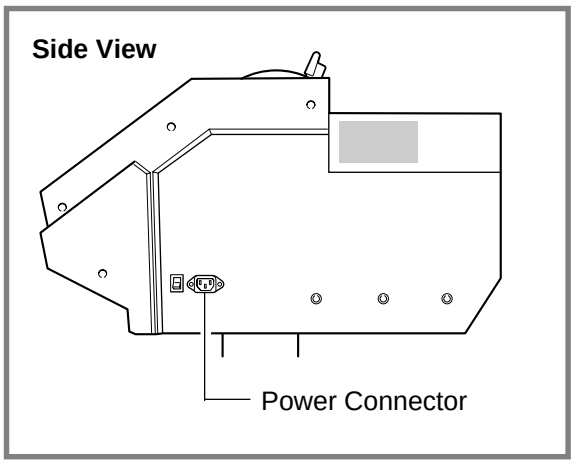
Before connecting the cable, make sure the computer's power and the FJ-600/500/400's main power switch are switched off.

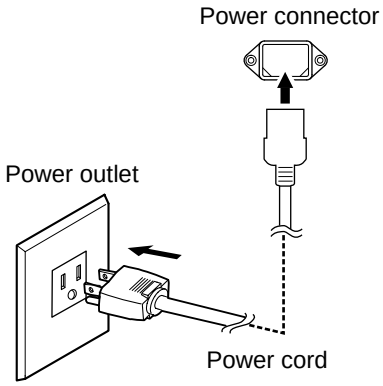
Securely connect the power cord, computer I/O cable and so on so that they will not be unplugged and cause failure during operation. Doing so may lead to faulty operation or breakdown.

Arrange the power cord and interface connection cable to prevent tripping when moving around the unit.

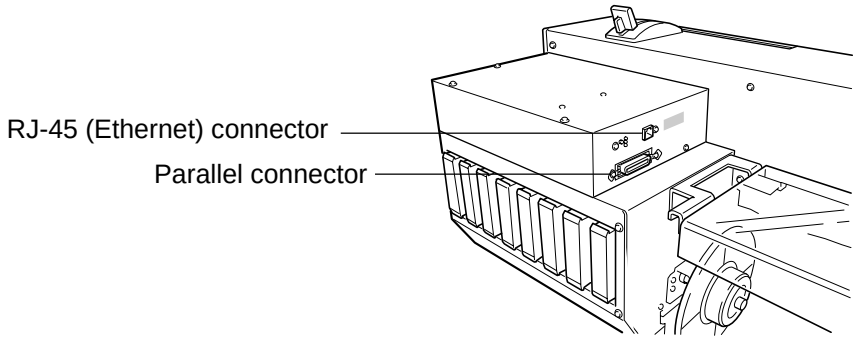
Pass the cable through the established location, making sure that it does not touch the loaded material.
If the cable touches the material during printing, material feed may be obstructed, resulting in poor printing accuracy.

Connecting the Power Cord



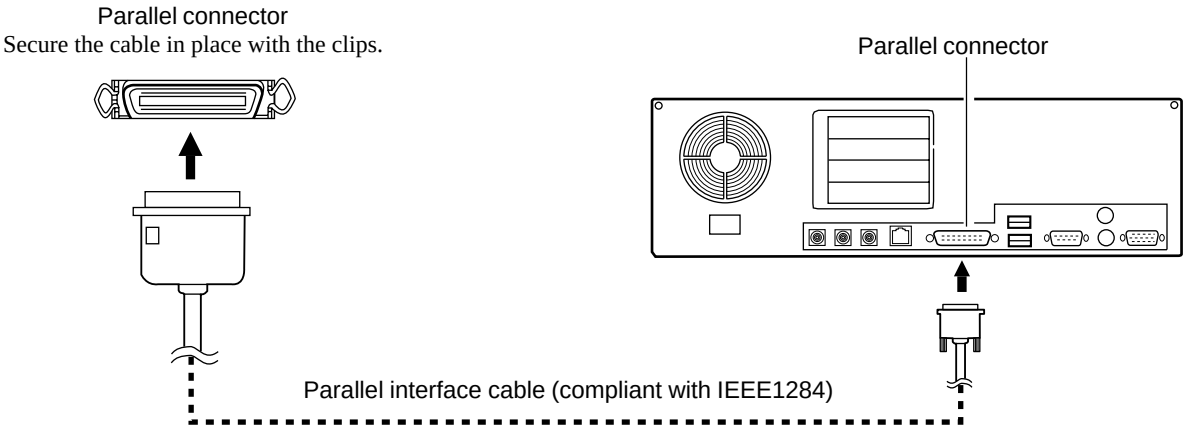


Connecting the Cable



* Cables are available separately. One which you are sure matches the model of computer being used should be selected.

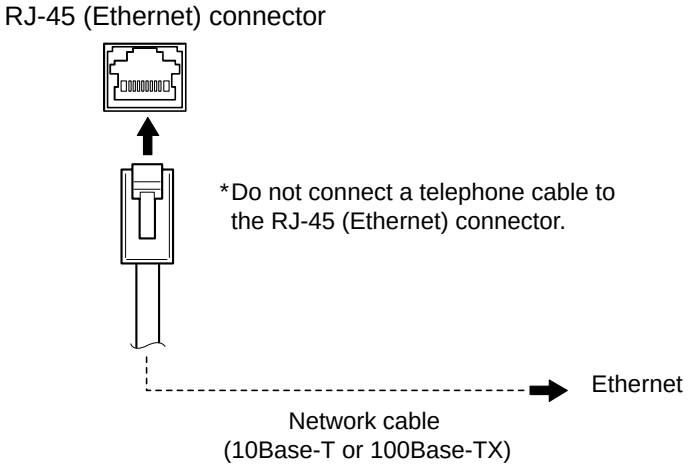
For IBM PC or PC compatibles


Parallel connector
Secure the cable in place with the clips.
Parallel connector
Parallel interface cable (compliant with IEEE1284)

For Macintosh

Connection to a Macintosh requires optional items such as an expansion card or special cable. For more information on the required optional items and connection settings, contact a Roland dealer.

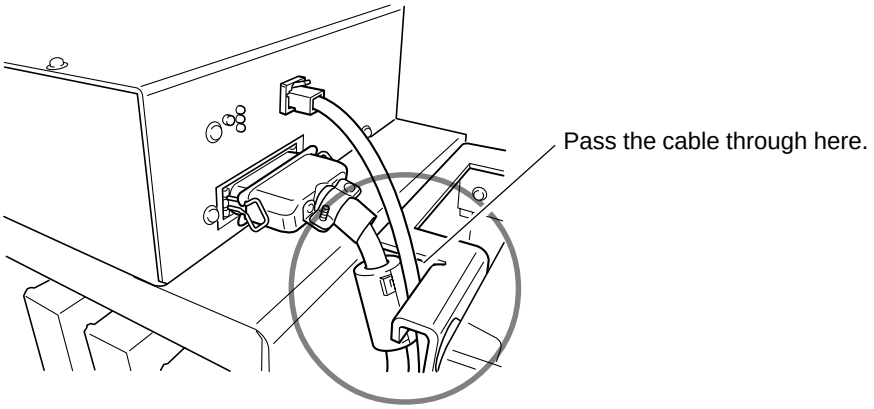
For a network connection


RJ-45 (Ethernet) connector
*Do not connect a telephone cable to the RJ-45 (Ethernet) connector.
Ethernet
Network cable
(10Base-T or 100Base-TX)

* Various settings are required when using the FJ-600/500/400 in a network environment.
For more information, see the following materials.

- "4-6 Network Connection" in this document
- "Roland-PrintServer Installation Manual" (PDF file), on the included Roland-PrintServer CD-ROM
- "Roland-PrintServer User Manual" (PDF file), on the included Roland-PrintServer CD-ROM
- "Roland-PrintServer for Macintosh Users" on the separate sheet

When You're Finished Making the Connections

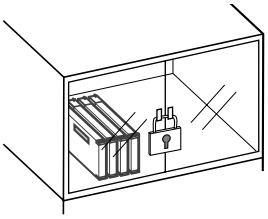


2 Basic Operation

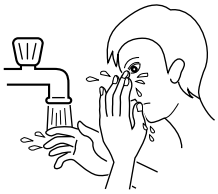
2-1 Installing Ink Cartridges

⚠CAUTION

Store ink cartridges out of the reach of children.



If ink contacts the eyes, flush immediately with water.



NOTICE

Do not remove any ink cartridges except when shipping the FJ-600/500/400.

If ink runs out, replace with a special ink cartridge of the same type and color of ink (see "3-1 Replacing the Ink Cartridges"). Do not attempt to refill and reuse an empty ink cartridge.
If an ink cartridge is removed, replace it immediately with a new one.

Do not attempt to disassemble an ink cartridge.

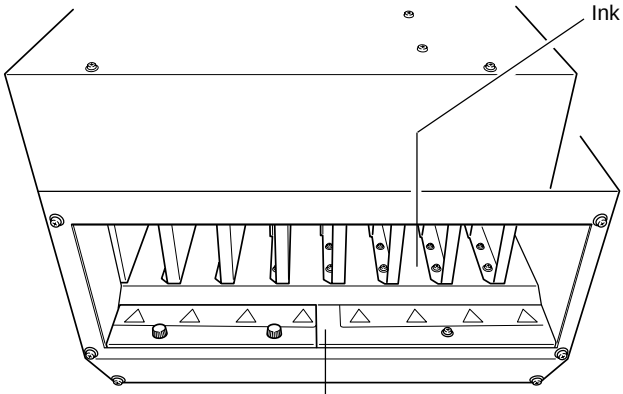
Unused ink cartridges should be stored unopened at a temperature of -20°C (-4°F) to 40°C (104°F).

If an ink cartridge is dropped, the shock due to the fall may damage the ink cartridge and make it unusable.

- If any ink gets on your hands or clothing, wash it off as soon as possible. Ink stains may become difficult to remove if allowed to stand.
- Once an ink cartridge has been installed, do not remove it until the ink has been used up. Frequent insertion and removal may allow air to enter the ink tube and result in a drop in printing quality due to dot drop-out or the like.

Before You Install the Ink Cartridges

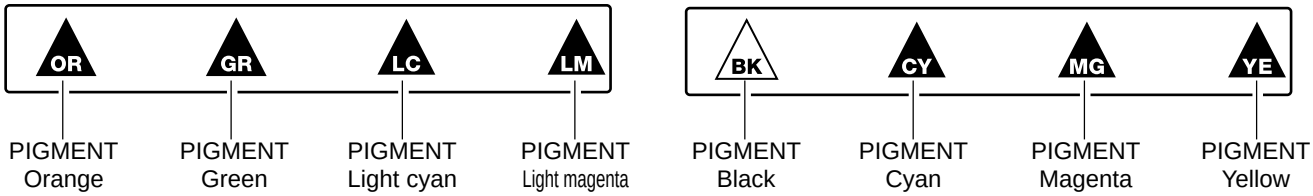
Choose the plate mounting surface of the ink-cartridge port that matches the ink color of the cartridge you are installing.
If the plate surface on the left side is changed, the ink cartridge that you can install also changes.



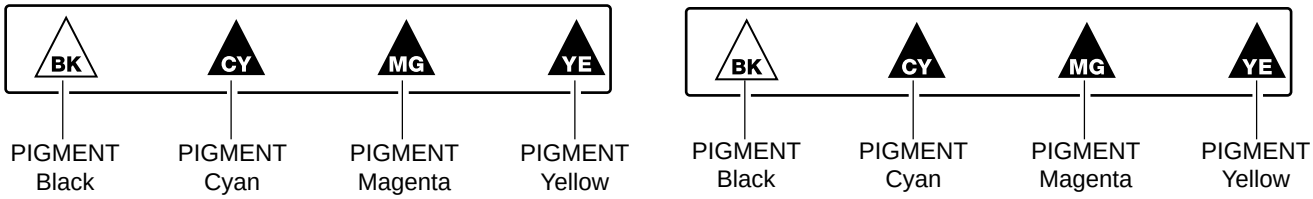
PIGMENT = pigmented ink **DYE** = dye-based ink

When inserting the cartridge, make sure that it is inserted into the correct slot for that color.

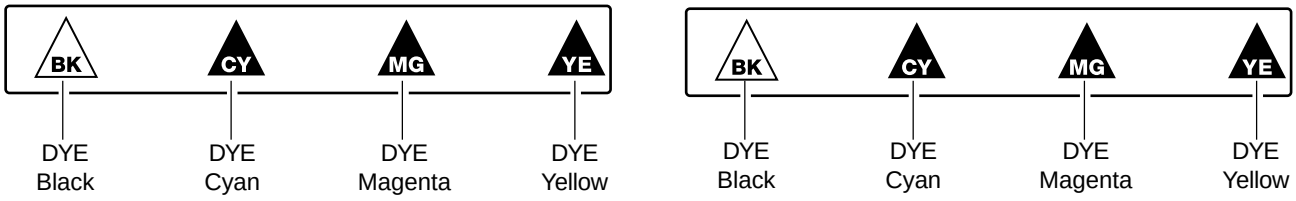
PIGMENT 8COLOR (Pigmented ink : orange, green, light cyan, light magenta, black, cyan, magenta, and yellow)



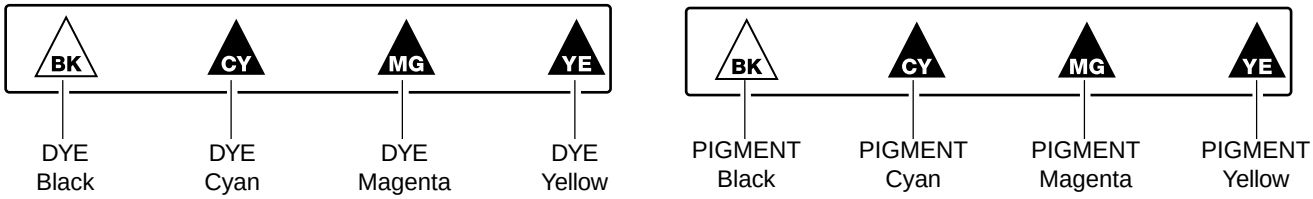
PIGMENT 4COLOR (Pigmented ink : black, cyan, magenta, and yellow)



DYE 4COLOR (Dye-based ink : black, cyan, magenta, and yellow)

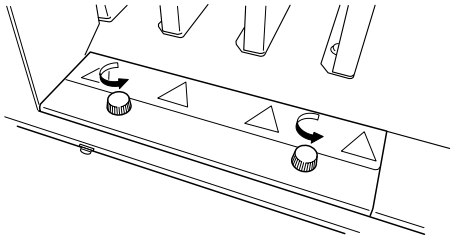


PIGMENT & DYE 4 (Pigmented ink : black, cyan, magenta, and yellow), (Dye-based ink : black, cyan, magenta, and yellow)

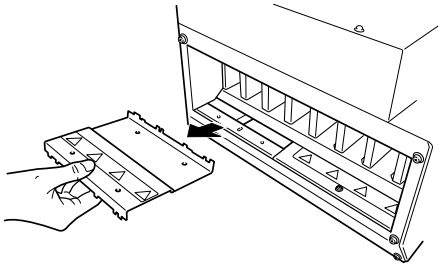


Turn Over the Plate

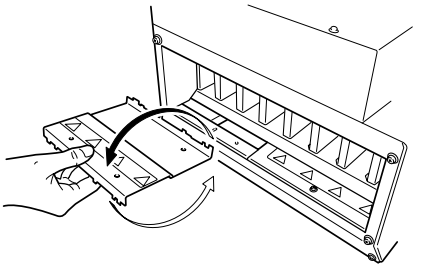
1 Remove the two screws shown in the figure.



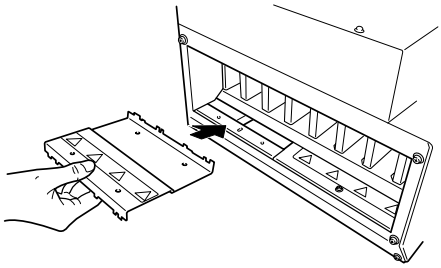
2 Pull out the plate toward the front of the machine.



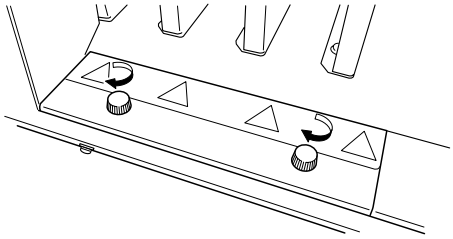
3 Turn over the plate.



4 Insert the plate.



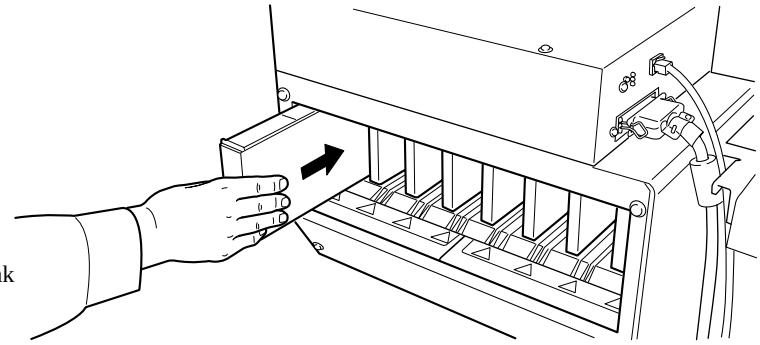
5 Attach the screws.



Install the Ink Cartridges

Insert each ink cartridge into the corresponding ink-cartridge port. Insert it firmly, as far as it will go.

PIGMENT = Pigmented ink
DYE = Dye-based ink



Before you insert a cartridge, make sure the ink color matches the slot where it is to be inserted.

When you have finished installing the ink cartridges, make the settings on the machine for the type of ink to match the installed inks. You can make the setting for the ink type when you switch on the power for the first time, or when you switch on the power after removing ink.
For more information, see the next section, "2-2 Powerup."

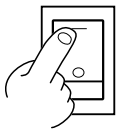
When you switch on the power for the first time, or when you switch on the power after removing ink, ink-filling is performed. This operation takes several minutes.

2-2 Powerup

Be sure to mount the drain bottle before turning on the power.

1 When you're using the machine for the first time, turn on the main power switch on the side of the unit.

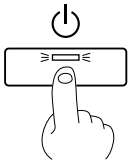
* Leave the main power switch on, and in daily use, use the sub power switch to turn the power on and off.



Switch to "I"

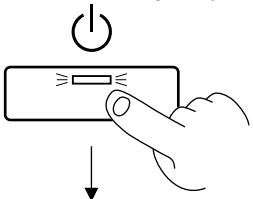
2 Press the [POWER] key (the sub power switch) on the operation panel.

The POWER LED lights up



When the power is turned on for the first time, or turned on after removing the ink

The POWER LED lights up



Roland FJ-500
Ver.1.00

Roland FJ-500
INK NOT FILLED

No ink is filled.

RAISE THE HEAD

Make the setting for the initial head-height position.
Refer to "4-2 Adjusting the Height of the Printing Head" and move the lever to the "2 (High)" position.

LOWER THE HEAD

Move the lever to the "1 (Low)" position.

LOWER THE HEAD ↵

Press the [ENTER] key.

SELECT INK TYPE ▲▼
PIGMENT 8COLOR ↵

Select the installed ink type and press the [ENTER] key.

PIGMENT 8COLOR / PIGMENT 4COLOR / DYE 4COLOR / PIGMENT & DYE 4

INSTALL
DRAIN TANK

Attach the drain bottle and press the [ENTER] key.

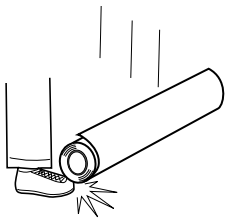
FILLING INK...

Ink-filling is performed.
This operation takes several minutes.

2-3 Loading the Material

⚠CAUTION

Load roll material at the proper position.
Otherwise the roll may fall, resulting in injury.



When closing the front cover, be careful not to pinch your fingers.
Doing so may result in injury.

NOTICE Before loading roll material, be sure to install the media guide.

- When transparent material is loaded, it is necessary to set [SHEET TYPE] to [CLEAR]. For more information, see "4-7 What to Do If..." ([SHEET SET ERROR SET AGAIN] appears and the material cannot be detected even when the [SETUP] key is pressed).
- When loading thicker material or material that is prone to warping, it may be necessary to adjust the head height. For more information, see "4-2 Adjusting the Height of the Printing Head."
- When changing to a different type of material, it may be necessary to perform feed correction or bidirectional correction. For more information, see "2-5 Printing -- Making Corrections for Printing."
- When the left or right edges of the material are warped, use the media clamps. Performing printing without using the media clamps may result in scraping of the heads or jammed material. Scraping of the heads and jammed material may damage or soil the printing heads, resulting in poorer printing accuracy. Do not use material that is so strongly warped that the media clamps are lifted.

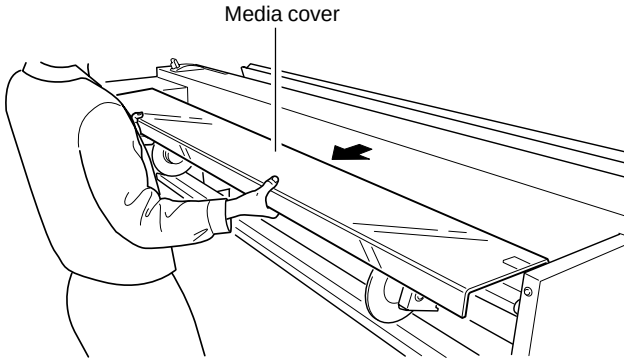
Acceptable material widths

FJ-600 210 to 1625 mm (8-5/16 to 64 in.)
FJ-500 210 to 1371 mm (8-5/16 to 54 in.)
FJ-400 210 to 1117 mm (8-5/16 to 44 in.)

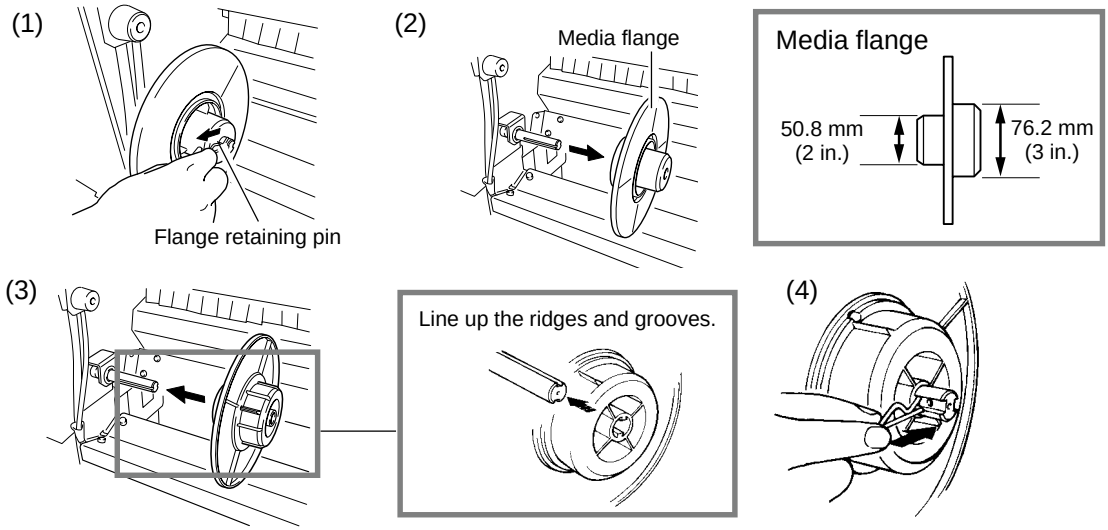
Loading Roll Material

1 Remove the media cover.

2 Open the front cover.

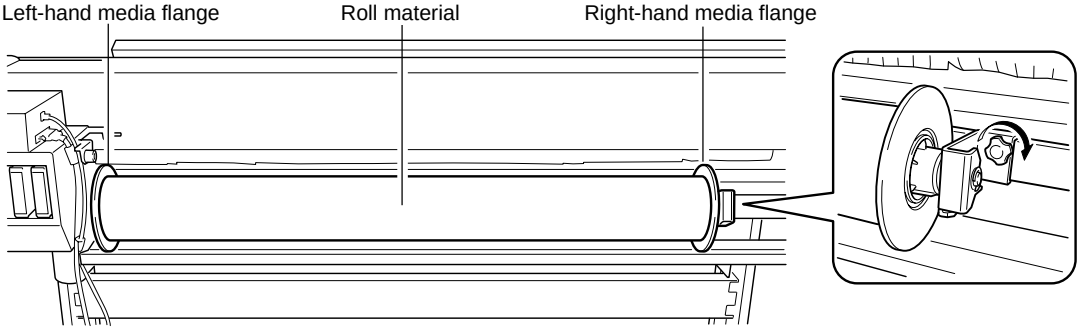


3 Line up with the core diameter of the loaded roll material and refit the left- and right-hand media flanges.

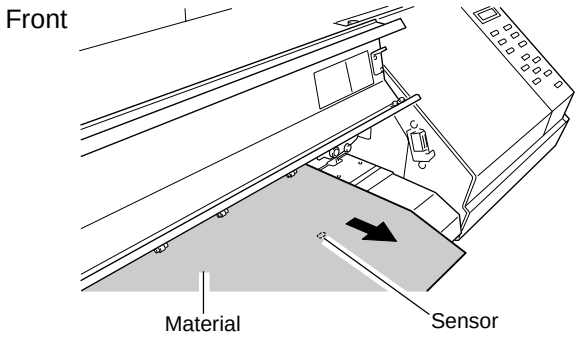


4 Fit the hole on the left side of the roll material all the way onto the left-hand media flange.

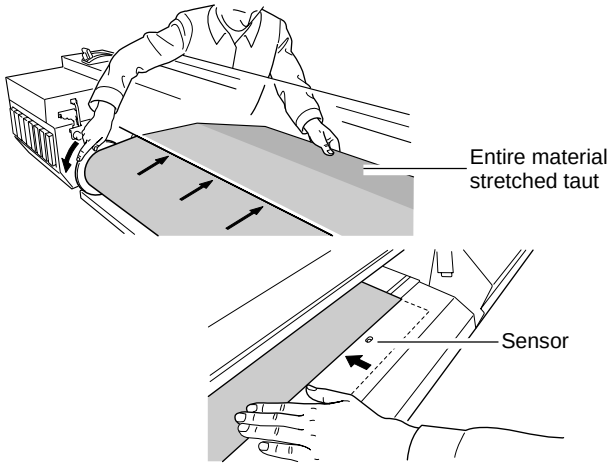
5 Fit the right-hand media flange all the way into the hole on the right-hand side of the roll material, and tighten the retainer screw to secure in place.



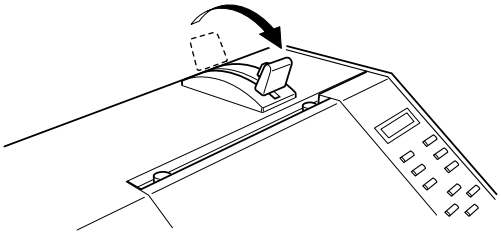
6 Pass the end of the material through the unit from back to front.
Pull out material until the sensor is hidden from view.



7 Grasp the front edge of the material at the front of the machine and turn the media flanges at the back of the unit to roll back the media.
When you roll back the material until the sensor comes into view, a tight seal is formed between the material and the platen, and the material is stretched taut.

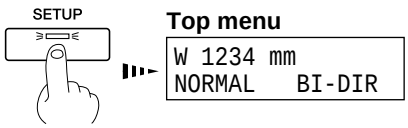


8 With the material pulled out from the roll stretched taut with no slack, move the sheet loading lever toward LOAD.
The pinch rollers lower to hold the material in place.



9 Close the front cover, and press the [SETUP] key. This detects the width of the material and displays the printable width.

The SETUP LED lights up

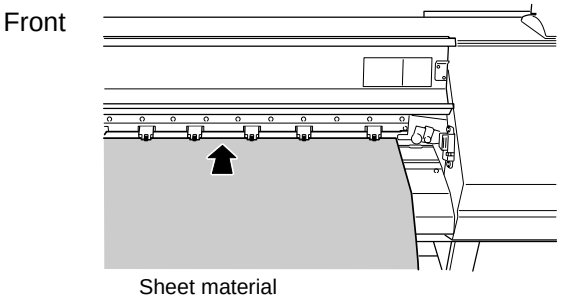


10 Attach the media cover.

Loading Sheet Material

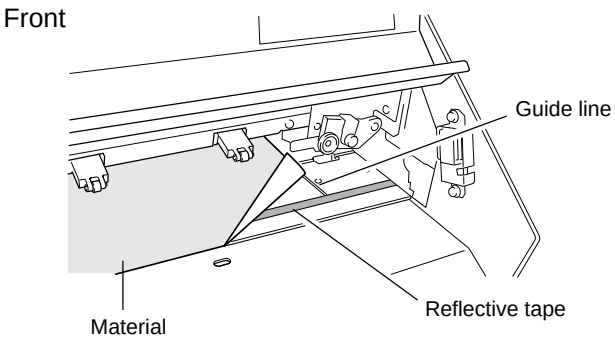
1 Remove the left-hand media flange at the back of the unit.
Move the right-hand media flange at the back of the unit to a position where it does not touch the loaded material.

2 Pass the material between the pinch rollers and the grit rollers.

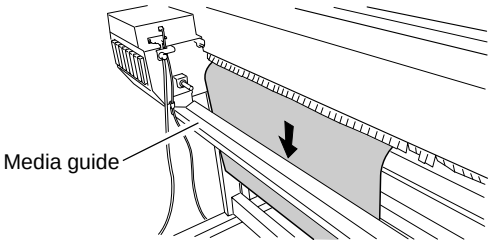


3 Line up the right-hand side of the material with the guide line, and line up the front edge of the material with the reflective tape.
If the front edge of the material has been cut at an angle, pull out the material so that all of the material covers the reflective tape.

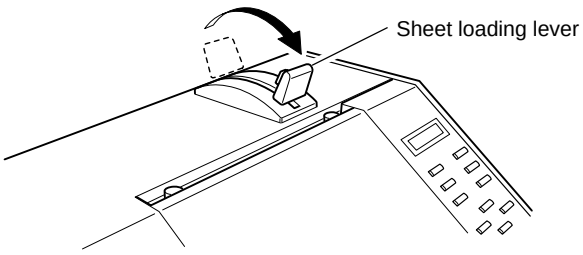
* Be sure to line up the right-hand edge of the material with the guide line.
If the material is not positioned correctly when you press the [SETUP] key, the message "SET AGAIN" appears on the display.



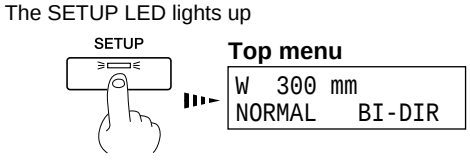
4 Drape the pulled-out portion at the back between the unit and the media guide.



5 Move the sheet loading lever toward LOAD.
The pinch rollers lower to hold the material in place.



6 Close the front cover, and press the [SETUP] key.
This detects the width of the material and displays the printable width.

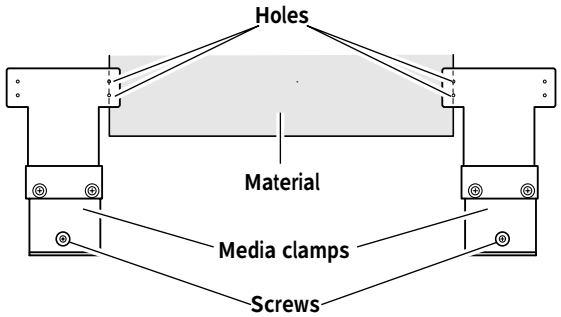


When Loading Material Prone to Warping

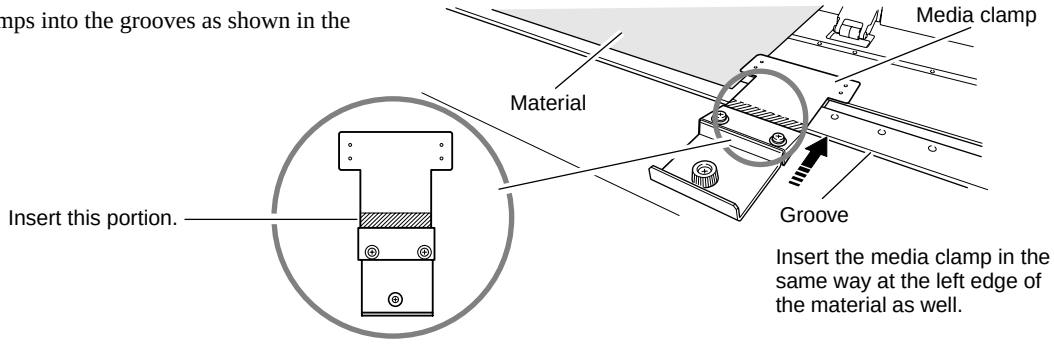
When you are loading material whose left and right edges are prone to warping, use the media clamps. At such times, perform printing with the printing heads positioned at "2" (high). For more information about the height of the printing heads, refer to "4-2 Adjusting the Height of the Printing Head."

Installing the Media Clamps

1 Line up the holes in the media clamps with the left and right edges of the material. At this time, loosen the screws on the media clamps, but do not loosen them so much that they come off completely.

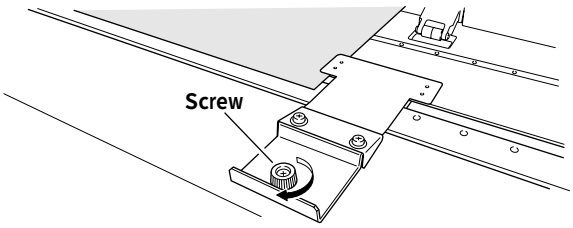


2 Insert the media clamps into the grooves as shown in the figure.



Insert the media clamp in the same way at the left edge of the material as well.

3 Tighten the screws to secure the media clamps in place.



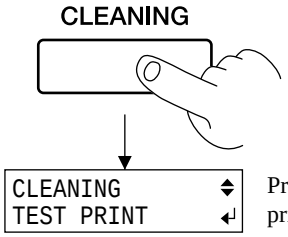
- When you are using the media clamps, attempting to cut off the material causes the material to come loose from the media clamps. If this happens, reinstall the media clamps.
- When you are not using the media clamps, remove them from the FJ-600/500/400.
- As printing proceeds, the material may move to the left right and touch or come loose from the media clamps. After about 1 m (39-3/8 in.) of material has been fed, check the positioning of the media clamps. If the material looks like it may come loose from the media clamps, adjust the positioning of the media clamps.
- The media clamps are designed to press down on a space 10 mm (7/16 in.) inward from either edge of the material. Do not perform printing within these areas.

2-4 Test Printing

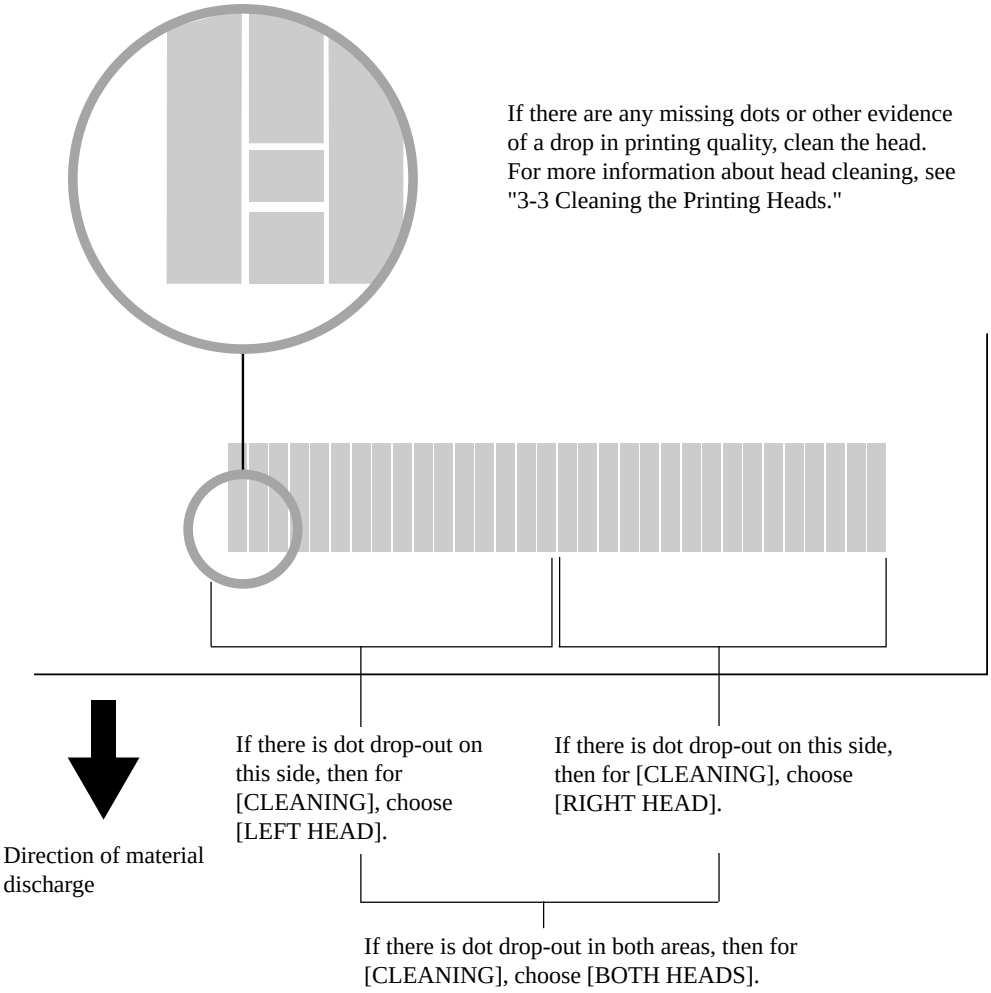
Before starting to print, carry out a Test print to check the state of the head.
Problems such as missing dots may reduce the printing quality.
If the test results show a problem, carry out head cleaning to restore the head to its normal state.

1 Load a material, then close the front cover.

2 Press the [CLEANING] key to execute [TEST PRINT].



Press the [ENTER] key to print a test pattern.


If there are any missing dots or other evidence of a drop in printing quality, clean the head. For more information about head cleaning, see "3-3 Cleaning the Printing Heads."
Direction of material discharge
If there is dot drop-out on this side, then for [CLEANING], choose [LEFT HEAD].
If there is dot drop-out on this side, then for [CLEANING], choose [RIGHT HEAD].
If there is dot drop-out in both areas, then for [CLEANING], choose [BOTH HEADS].

2-5 Printing

NOTICE

Opening the front cover while printing is in progress causes an emergency stop. This means that printing may not be carried out correctly even if operation is resumed, due to drop-out or misalignment of the image.
To pause printing for any other reason than an emergency stop, press the [PAUSE] key.
Note pressing the [PAUSE] key to pause operation may result in differing image quality before and after the pause. It is a good idea to avoid pausing operation while printing is in progress whenever possible.

If you will leave the printing head being uncapped for a long time (for example, open the front cover while printing is made on the middle of platen), printing heads may get clogging and, in some case it results unrecoverable damage to the printing head.

Do not use the [▲] key to return a portion of the material that's already been printed. The pinch rollers may pass over the printed surface, smudging the ink.
Also, do not use the [▲] and [▼] keys to feed and return unprinted portions many times. The grit rollers may make tracks on the material, resulting in poor printing precision.

During printing, do not touch the portion of the material that's already been discharged.
Doing so may obstruct material feed or cause the material to rub against the heads, which may result in a paper jam or damage to the heads.

About Roland COLORCHOICE®

The included Roland COLORCHOICE® is a software raster image processor, or RIP. It takes printing data such as a PostScript file received from a program, performs raster image processing on the computer, and outputs the data to the FJ-600/500/400.
(Raster image processing converts images and text in a format such as PostScript to bitmap data.)
For more information about Roland COLORCHOICE®, see the Roland COLORCHOICE® User's Manual with the machine.

Downloading Printing Data

Printing is started when data is sent.

If the top menu isn't displayed, printing doesn't start even when data is sent from the computer.

Conditions for starting printing

The material must be already set up (with the SETUP LED lighted),
and the display must show the top menu.

If another menu screen is displayed, press the [SETUP] key to go back to the top menu.
(Pressing the [SETUP] key when another menu screen is displayed does not cancel the set-up for the material.)

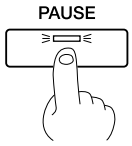
Top menu

```
W 1234 mm
NORMAL   BI-DIR
```

Pausing Printing Operations

Press the [PAUSE] key.

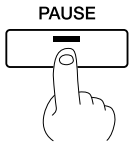
The PAUSE LED lights up



To resume printing

Press the [PAUSE] key again.

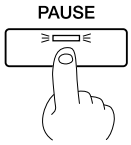
The PAUSE LED goes out



Stopping Printing Operations

1 Press the [PAUSE] key.

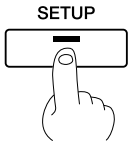
The PAUSE LED lights up



2 Halt transmission of printing instructions from the computer.

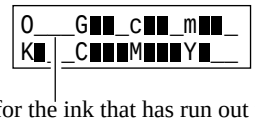
3 Hold down the [SETUP] key for one second or longer. Any remaining data is cleared.

The SETUP LED goes out



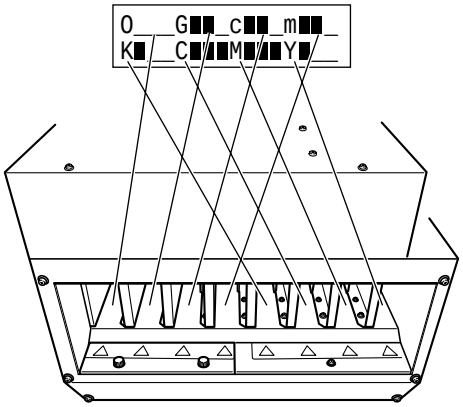
If ink runs out during printing

If ink runs out during printing, a warning beep sounds and the screen shown in the figure appears.
Replace the ink cartridge.
Ignoring the message and continuing printing without replacing the ink may adversely affect image quality, resulting in faintness or other problems.



The "___" for the ink that has run out flashes.
The letter indicates the color of the ink.
O = Orange, G = Green, c = Light Cyan,
m = Light Magenta, K = Black, C = Cyan,
M = Magenta , Y = Yellow
The "■" symbols are a guide to the amount of remaining ink.

The displayed inks indicate the ink cartridges at the locations shown in the figure.



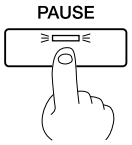
In the preceding example, the ink type is [PIGMENT 8COLOR].
For [PIGMENT 4COLOR], [DYE 4COLOR], or [PIGMENT & DYE 4], "KCMY" is displayed instead of "OGcm."

1 When [INK CONTROL]'s [EMPTY MODE] is set to [LATER]

1) Press any key on the control panel to display the top menu.
2) Press the [PAUSE] key to pause printing.

When [INK CONTROL]'s [EMPTY MODE] is set to [PROMPT]
The unit pauses automatically.
When you replace the ink cartridge, resume printing.

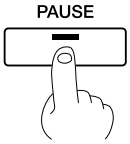
The PAUSE LED lights up



2 Pull out the cartridge for the ink color that has run out, and replace with a new cartridge (see "3-1 Replacing the Ink Cartridges").

3 Press the [PAUSE] key to resume printing.

The PAUSE LED goes out



About the [EMPTY MODE]

When replacement of the ink cartridge becomes necessary while printing is in progress, this setting determines whether printing continues or pauses.
This setting is used when the ink cartridge cannot be changed immediately during printing, such as during unattended operation at night.
[LATER] causes printing to continue without pause even if ink refilling becomes necessary. Printing continues with the small amount of ink remaining, so the printed image may become faint as the ink runs out. In general, it should possible to perform about 1 m^2 (10 ft^2) of printing once this message appears, although the actual varies widely according to the amount of ink needed for the particular image.
Printing is continued only for the data currently being printed. Operation stops after one image is output.
[PROMPT] causes operation to pause immediately when the ink cartridge needs to be changed. Printing is resumed by replacing the cartridge . Please note, however, that the colors of an image in progress may no longer be perfectly matched if the unit is allowed to remain paused for two or three hours before resuming printing.

Setting the Printing Mode

Setting the Printing Mode and Printing Direction

Before start to print, set the printing mode and printing direction.
On the control panel, press the [PRINT QUALITY] key and specify the printing mode and direction of printing.

- When you can make the settings for the printing mode and printing direction on the computer, the computer's settings take priority.
- The optimal printing mode differs according to the material you are using.
- Printing when using eight-color pigmented ink ([PIGMENT 8COLOR]) is taken as a guide for usage of the various modes. ([PIGMENT 8COLOR] obtains better image quality than [PIGMENT 4COLOR] or [DYE 4COLOR], but output times are longer.)
  Printing quality, output time, and the amount of data processing in the computer vary according to the printing mode and the material used. Choose a mode that matches the task.
- The printing time for the same original data becomes increasingly longer in this sequence: DRAFT, NORMAL, vNORMAL, SUPER, vSUPER and vPHOTO. Also, because the size of the output file grows larger, the processing time for creating the output file also becomes longer.
  It's also necessary to ensure enough memory on the computer.
- When the installed ink type is [PIGMENT 4COLOR] or [DYE 4COLOR] and the printing mode is vNORMAL or vSUPER, printing using only the printing head on one side is performed in order to improve printing quality. Use the [HEAD SELECT] menu to select whether to use the left printing head or the right printing head.

Printing Mode

vPHOTO:
This is suitable for printing photographs with the highest image quality.
However, because the amount of data becomes large, printing time is longer.

vSUPER:
This is suitable for printing photographs.It's also suitable for applications such as color proofs.

vNORMAL:
This is suitable for printing posters and the like.

SUPER:
This is suitable for printing posters and signs at high density. It's also suitable for printing Clear Pet Film.

NORMAL (Factory default):
This is suitable for printing signs at high density and at comparatively high speed.

DRAFT:
This is suitable for printing large-size signs. It's also suitable for applications such as checking layout.

Printing Direction

UNI-DIRECTION:
Unidirectional printing.
Printing is performed as the carriage moves from right to left.
Printing quality is better than with [BI-DIRECTION].

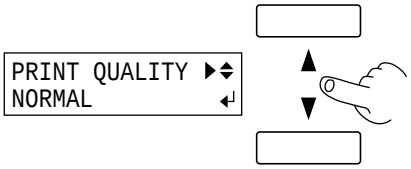
BI-DIRECTION (factory default):
Bidirectional printing.
Printing is performed as the carriage moves from right to left, and also as it returns from left to right.
Printing speed is faster than with [UNI-DIRECTION].

* When you are performing printing from the included Roland COLORCHOICE®, then in addition to the preceding printing modes, you can also select gNORMAL or sNORMAL. For more information about gNORMAL and sNORMAL, refer to "About Roland COLORCHOICE® Parameter Settings and ICC Profiles During Output."

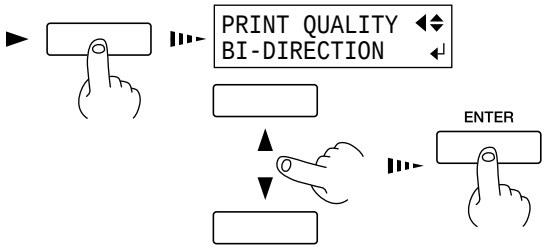
How to Set the [PRINT QUALITY] Menu

1 Press the [PRINT QUALITY] key.

2 Use the [▲] and [▼] keys to choose the printing mode.



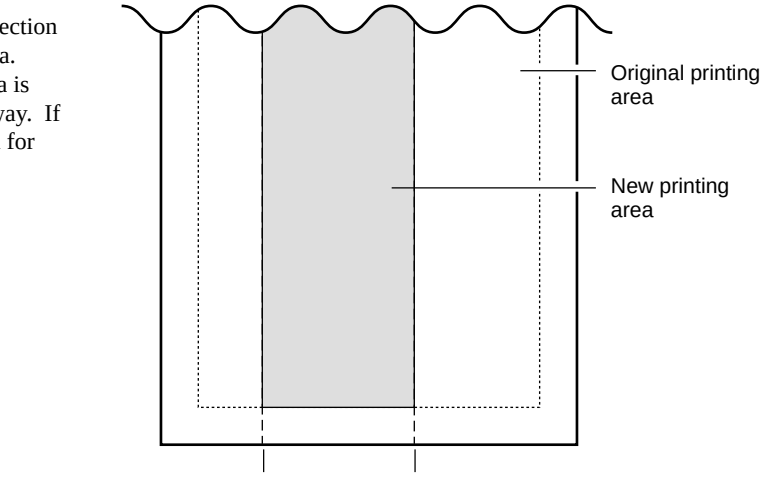
3 Press the [►] key to make the setting for the printing direction.
Use the [▲] and [▼] keys to display the printing direction, then press the [ENTER] key.



Printing at the Desired Location

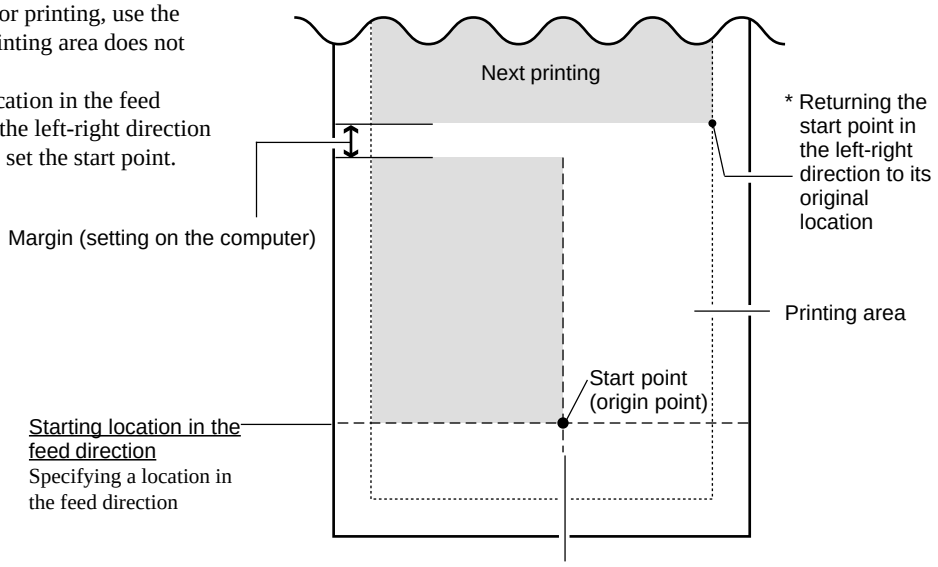
This sets the location where printing starts.

When [SHEET TYPE] is set to [OPAQUE], the width of the printing area is set automatically (see "4-3 Printing Area"). To determine the desired printing area, follow the steps in "Setting the printing area in the left-right direction (the direction of carriage movement)" to set the width of the printing area. When [SHEET TYPE] is set to [CLEAR], the printing area is not set automatically, so set the printing area in the same way. If this setting is not made, it is set to the default printing area for the maximum loadable width for the FJ-600/500/400. Canceling setup cancels the printing area.



Setting the printing area in the left-right direction (the direction of carriage movement)

To change the start point (origin point) for printing, use the [BASE POINT] key. At this time, the printing area does not change.
Follow the step in both "Specifying a location in the feed direction" and "Specifying a location in the left-right direction (the direction of carriage movement)" to set the start point.

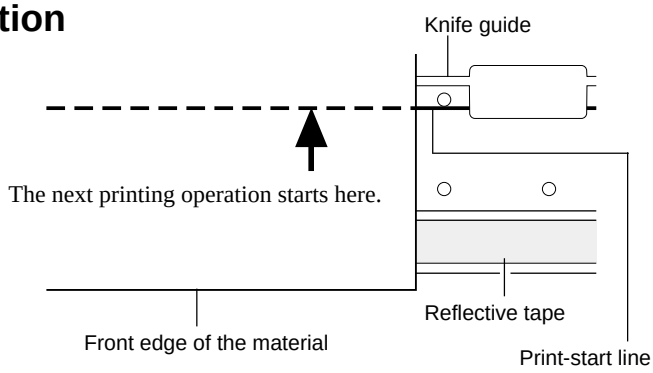

Next printing
* Returning the start point in the left-right direction to its original location
Margin (setting on the computer)
Printing area
Start point (origin point)
Starting location in the feed direction
Specifying a location in the feed direction
Starting location in the left-right direction

Specifying a location in the left-right direction (the direction of carriage movement)

Specifying a location in the feed direction

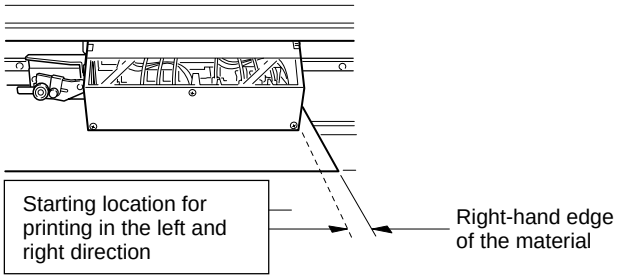
Use the [▲] and [▼] keys to move the material to the location where you want to start printing.
In the figure, the next printing operation starts from the location shown.

* For roll material, when the material has been returned toward the back of the unit with the [▲] key, manually roll the material back onto the roll so that all of the material at the back of the unit is stretched taut.

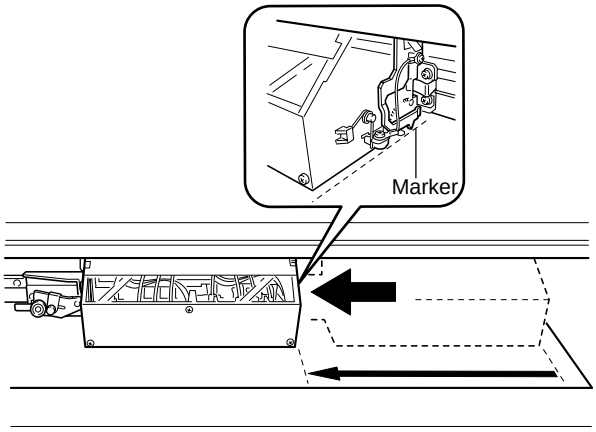


Specifying a location in the left-right direction (the direction of carriage movement)

1 Press the [◄] key to move the carriage to the present starting location for printing in the left-right direction.

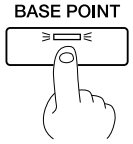


2 Use the [◄] and [►] keys to move the marker to the new print-start position.



3 Press the [BASE POINT] key.

The BASE POINT LED lights up



To release the starting location that has been set...

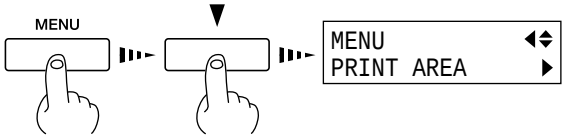
- Set a new starting location in a different location.
- Press the [SETUP] key to cancel the setup for the material (making the SETUP LED go out).

- If the carriage moves away from the standby position when not printing, problems such as drying-out of the printing heads or dot drop-out during printing may occur. For this reason, about 60 seconds after pressing the [◄] key to move the carriage, the carriage returns to the standby position.
  Also, the carriage returns to the standby position when about 30 seconds passes during this interval after the [◄] and [►] key is released.
  If the setting could not be made in within the time limit, then do the setting over again from the beginning.
- The starting location set by pressing the [BASE POINT] key is released after printing one page.

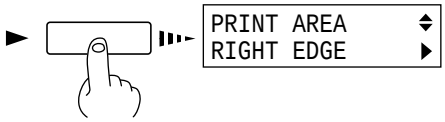
Setting the printing area in the left-right direction (the direction of carriage movement)

* This can be set only at the time of material setup.

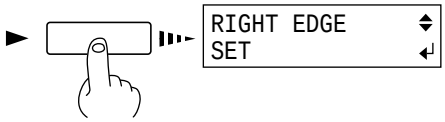
1 Press the [MENU] key and [▼] key to display the screen shown in the figure.

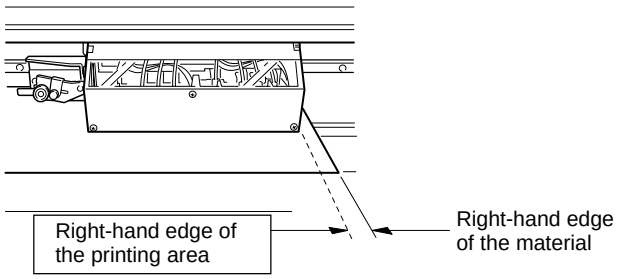


2 Press the [►] key to display the screen shown in the figure.

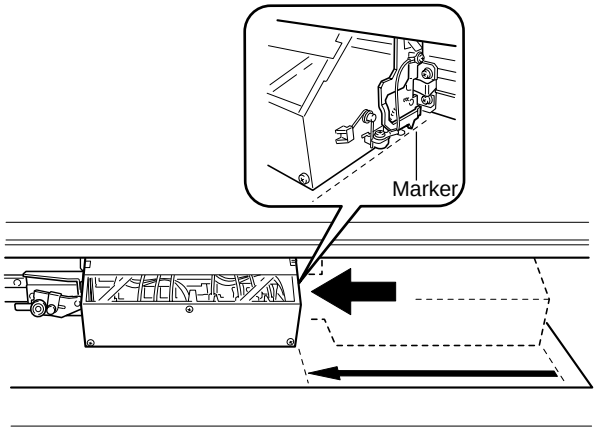


3 Press the [►] key to display the screen shown in the figure.
When you do this, the carriage moves to the right edge of the printing area.

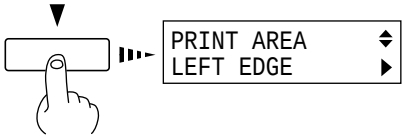




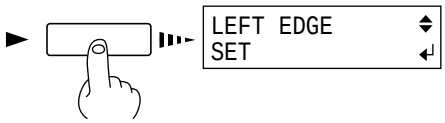
4 Use the [◄] and [►] keys to move the marker at the right edge of the carriage to the location that you want to make the right edge of the printing area. Press the [ENTER] key to lock in the setting the right-hand edge with an audible beep.

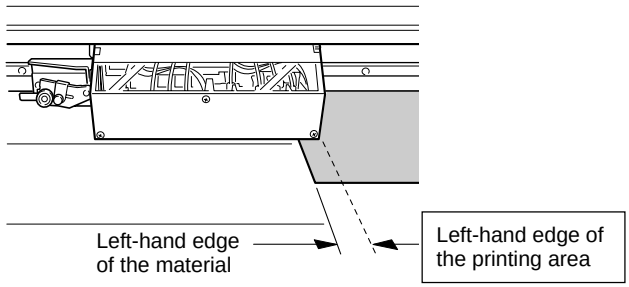


5 Press the [▼] key to display the screen shown in the figure.

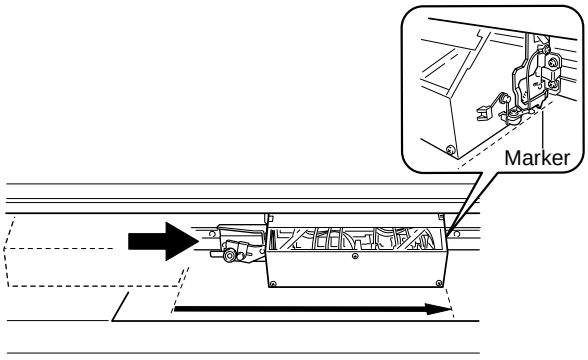


6 Press the [►] key to make the following screen appear on the display.
When you do this, the carriage moves to the left edge of the printing area.

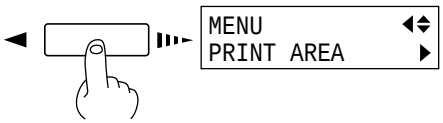




7 Use the [◄] and [►] keys to move the marker at the right edge of the carriage to the location you want to make the left edge of the printing area. Press the [ENTER] key to lock in the setting the left-hand edge with an audible beep.



8 Press the [◄] key to display the screen shown in the figure.
When you do this, the carriage returns to the standby position.



- If the carriage moves away from the standby position when not printing, problems such as drying-out of the printing heads or dot drop-out during printing may occur. For this reason, about 60 seconds after pressing the [►] key to move the carriage, the carriage returns to the standby position.
  Also, the carriage returns to the standby position when about 30 seconds passes during this interval after the [◄] and [►] key is released.
  If the setting could not be made in within the time limit, then do the setting over again from the beginning.
- After setting the printing area, pressing the [SETUP] key to cancel the setup for the material (making the SETUP LED go out) cancels the printing area that has been set.
- Using [PRINT AREA] to set the printing area when the starting location in the left-right direction has been specified with the [BASE POINT] key, the setting made with the [BASE POINT] key is canceled.
- When the printing area is set to the full width of the material, fluctuations in material-width detection or slight crookedness of the material may result in printing outside the material, causing soiling of the platen. If this happens, then do not specify a printing area. Instead, use the default printing area in effect when the material is set up.

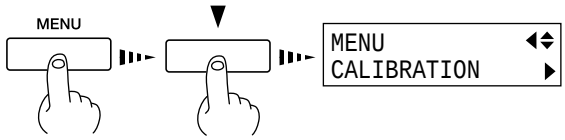
Making Corrections for Printing

Feed Correction

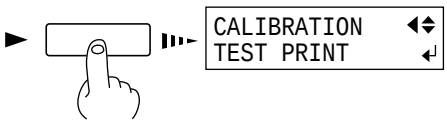
This corrects for errors in the amount of feed of the grit rollers due the type of material.
Be sure to make this setting when you have replaced the material with a different type.
Correcting the amount of feed improves the dot-positioning accuracy in the feed direction, which can help enhance image quality.

- When correcting the amount of feed, set the same conditions for the type of material used and the configuration of the material (roll material or sheet material) as when actually performing printing.
- When performing test printing for feed correction, load the material correctly (see "2-3 Loading the Material"). If the material is not loaded correctly, an accurate correction value may not be output.
- When you can set the error for the amount of feed for the grit rollers on the computer, the computer's setting takes priority.

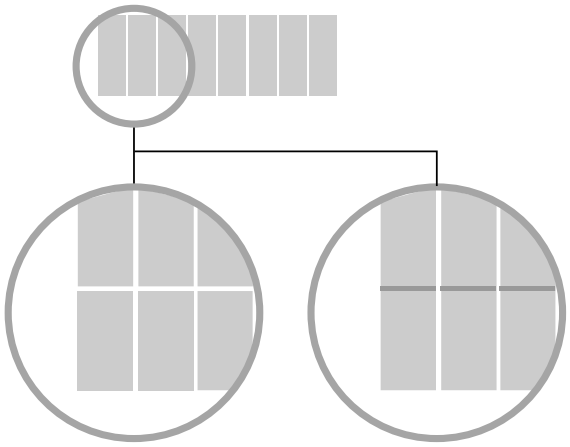
1 Press the [MENU] key and [▼] key to make the following screen appear on the display.



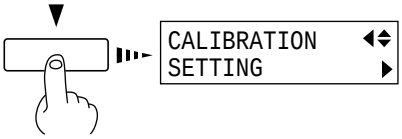
2 Press the [►] key to make the following screen appear on the display.



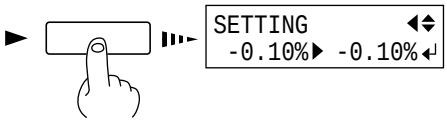
3 Press the [ENTER] key to start printing a test pattern.



4 Press the [▼] key to make the following screen appear on the display.

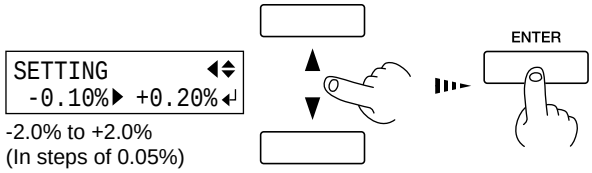


5 Press the [►] key to make the following screen appear on the display.



6 Use the [▲] and [▼] keys to set the value you checked in step 4, then press the [ENTER] key.

Perform correction to ensure uniform dot spacing: If there are gaps in the test pattern, reduce the value. If there are overlapping areas in the test pattern, increase the value.



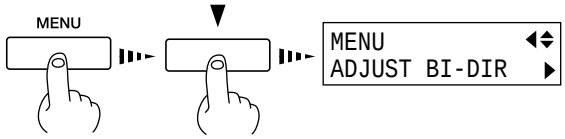
-2.0% to +2.0%
(In steps of 0.05%)

Bidirectional Correction

* Only when the printing direction at the [PRINT QUALITY] menu has been set to [BI-DIRECTION] (bidirectional)

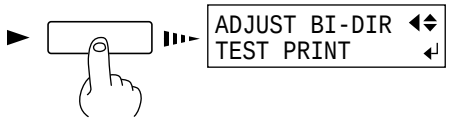
This adjusts slippage when performing bidirectional printing.
Make this adjustment when you have replaced the material with a different type or adjusted the head height.

1 Press the [MENU] key and [▼] key to make the following screen appear on the display.



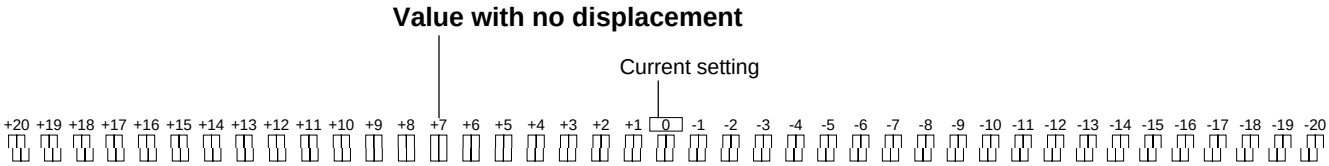
2 Press the [►] key to make the following screen appear on the display.

3 Press the [ENTER] key to start printing a test pattern.

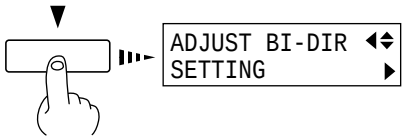


4 Check the test pattern and choose a value with no displacement.

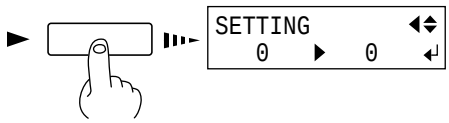
Test pattern



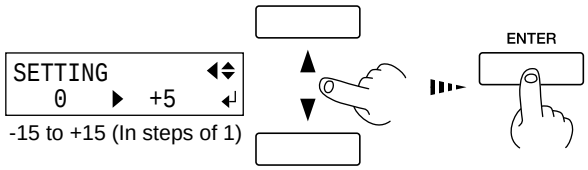
5 Press the [▼] key to make the following screen appear on the display.



6 Press the [►] key to make the following screen appear on the display.



7 Use the [▲] and [▼] keys to set the value you checked in step 4, then press the [ENTER] key.



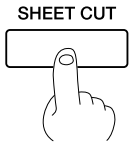
-15 to +15 (In steps of 1)

2-6 Ending Printing Operations

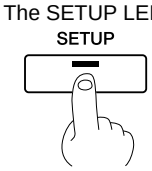
Remove the Material

1 If you wish to cut off the piece of the rolled material containing the printed area, press the [SHEET CUT] key. Hold down for about 1 second.
The piece is cut off at the present location of the printing-start line.

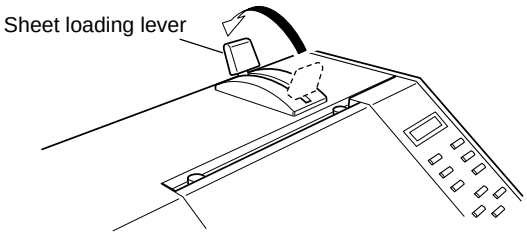
* This operation isn't necessary when sending a material-cutting command from the computer to separate the material automatically.



2 When the SETUP LED is lighted, hold down the [SETUP] key for at least one second.



3 Move the sheet loading lever toward the back of the unit.
The pinch rollers rise to release the material.



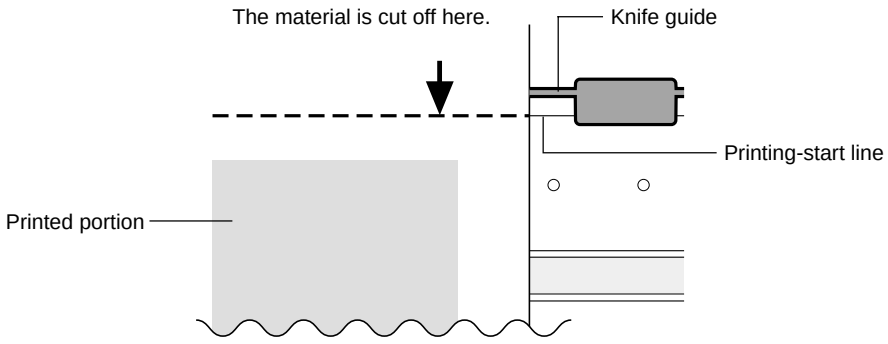
4 Open the front cover.
To remove the material, follow the steps for loading it in reverse.

Separating the Printed Portion

Either of two methods can be used to separate a portion that's already been printed from the roll. One method is to press the [SHEET CUT] key. The other method is to perform separation automatically by sending a material-cutting command from the computer.

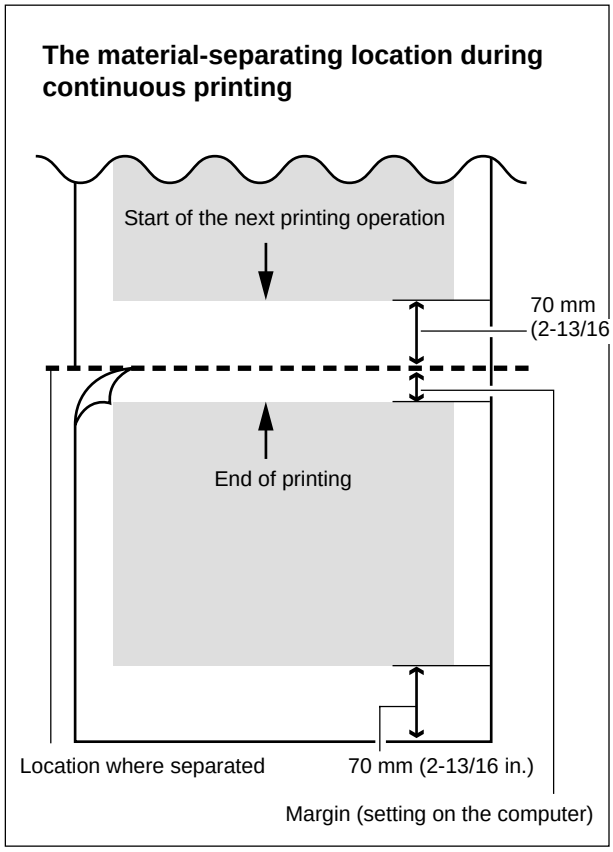
When separating the material by pressing the [SHEET CUT] key

Holding down the [SHEET CUT] key for 1 seconds or longer severs the material at the present position of the printing-start line.



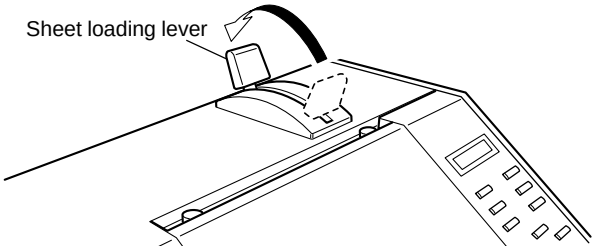
When sending a material-cutting command from the computer to separate the material automatically

On the computer, set the material-cutting command to "enabled."



2-7 When Not in Use...

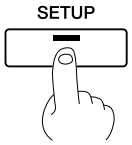
NOTICE When not in use, move the sheet loading lever toward the back of the unit to leave the pinch rollers in the raised state. The pinch rollers may be deformed if allowed to remain in the lowered state.



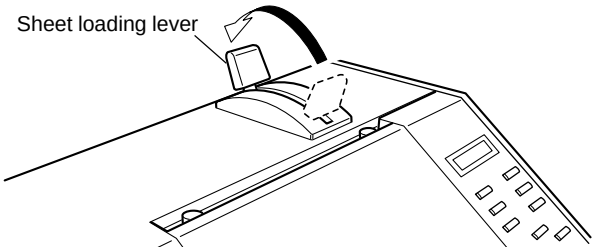
Power Off in Daily Operation

1 If the SETUP LED is lighted, press the [SETUP] key. Hold down for about 1 second.

The SETUP LED goes out

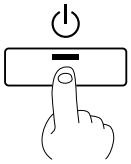


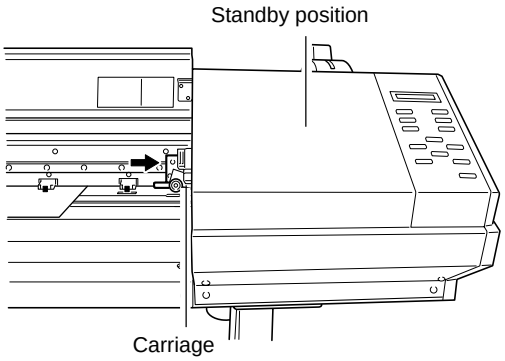
2 Move the sheet loading lever toward the back of the unit and remove the material.



3 Press the [POWER] key to switch off the power. The carriage moves to the standby position and the head is capped.
If the carriage is already at the standby position, no movement takes place.

The POWER LED goes out





When Not in Use for a Prolonged Period...

NOTICE Do not switch off the main power with the printing head in an uncapped state (i.e., while the carriage is on the platen).
If you leave the carriage uncapped for a long time, doing so may result in clogging of the printing head, making it unusable.
Before switching off the main power, be sure to press the [POWER] key to switch off the sub power for the FJ-600/500/400.

1 After carrying out "Power Off in Daily Operation," turn off the main power switch.

2 Unplug the power cord from the electrical outlet.

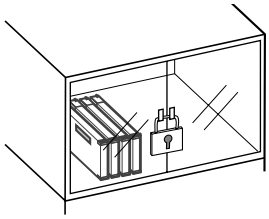
* If the unit will be out of use for a month or longer, follow "3-8 When Moving the Unit..." to wash the printing head. Head washing requires four optionally available cleaning cartridges.

3 Maintenance

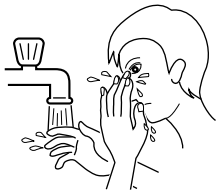
3-1 Replacing the Ink Cartridges

⚠CAUTION

Store ink cartridges out of the reach of children.



If ink contacts the eyes, flush immediately with water.



NOTICE

Do not remove any ink cartridges except when shipping the FJ-600/500/400.

Use only the type of filled ink specified for the machine.
If ink runs out, replace immediately with an ink cartridge designed especially for the FJ-600/500/400. Do not attempt to refill and reuse an empty ink cartridge.
If an ink cartridge is removed, replace it immediately with a new one.

Do not attempt to disassemble an ink cartridge.

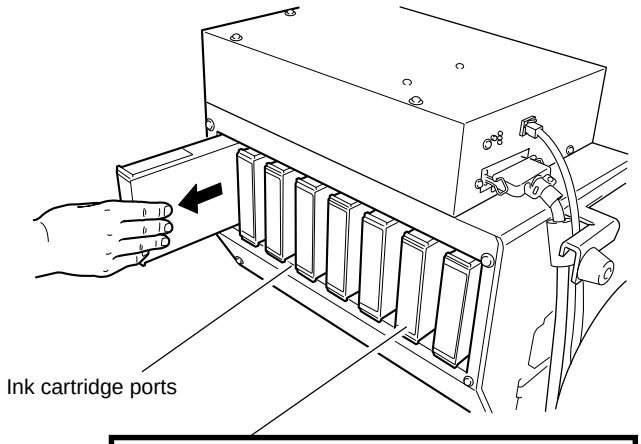
Unused ink cartridges should be stored unopened at a temperature of -20°C (-4°F) to 40°C (104°F).

If an ink cartridge is dropped, the shock due to the fall may damage the ink cartridge and make it unusable.

When removing an ink cartridge, do not rush. Detach the cartridge gently. Sudden movement when detaching may cause ink to be spilled.

- If any ink gets on your hands or clothing, wash it off as soon as possible. Ink stains may become difficult to remove if allowed to stand.
- Once an ink cartridge has been installed, do not remove it until the ink has been used up. Frequent insertion and removal may allow air to enter the ink tube and result in a drop in printing quality due to dot drop-out or the like.

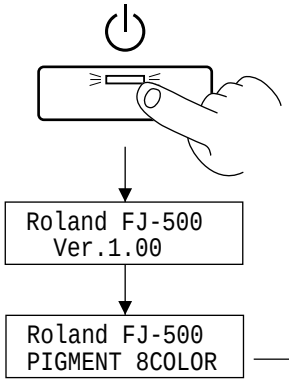
1 Remove the ink cartridge from the ink-cartridge port.



PIGMENT = pigment ink **DYE** = dye ink

2 Insert new ink cartridge.

Use only the type of filled ink specified for the machine.
If ink cartridges other than the filled type are installed, printing with the correct color blending will not be performed.
The present ink type is displayed when the power is turned on.



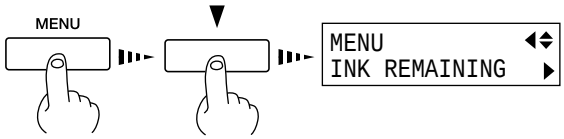
- INK NOT FILLED: No ink is filled.
- PIGMENT 8COLOR: Pigment ink (orange, green, light cyan, light magenta, black, cyan, magenta, and yellow)
- PIGMENT 4COLOR: Pigment ink (two sets of black, cyan, magenta, and yellow)
- DYE 4COLOR: Dye-based ink (two sets of black, cyan, magenta, and yellow)
- PIGMENT & DYE 4: Dye-based ink (black, cyan, magenta, and yellow) and pigment ink (black, cyan, magenta, and yellow)

To change the type of ink, you must use an optionally available cleaning cartridge to replace the ink. For more information, see "3-4 Changing the Type of Ink."

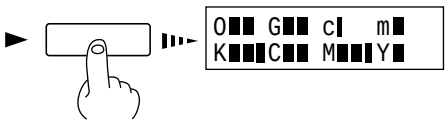
3-2 Checking the Remaining Ink Level

You can use [INK REMAINING] on the display menu to check how much ink is left after the ink cartridges have been installed. Use this information as a guide for replacing the ink cartridges.
If a partially used ink cartridge is removed and reinstalled, or if a partially used ink cartridge is installed, the cartridge is taken to be unused, and the displaced amount of remaining ink is not true.

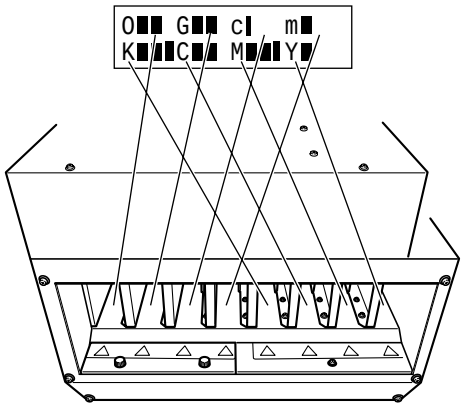
1 Press the [MENU] key and [▼] key to make the following screen appear on the display.



2 Press the [►] key to make the following screen appear on the display.
The fewer the markers, the less is the amount of ink left.



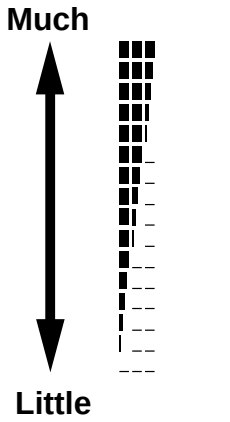
The displayed inks indicate the ink cartridges at the locations shown in the figure.



In the preceding example, the ink type is [PIGMENT 8COLOR].
For [PIGMENT 4COLOR], [DYE 4COLOR], or [PIGMENT & DYE 4], "KCMY" is displayed instead of "OGcm."

O = Orange, G = Green,
c = Light Cyan, m = Light Magenta,
K = Black, C = Cyan,
M = Magenta, Y = Yellow

Remaining ink



3-3 Cleaning the Printing Heads

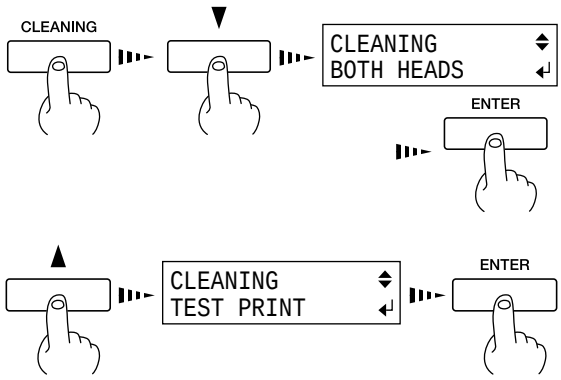
Switching on the sub power automatically performs maintenance operations, including cleaning of the printing head. This means that there is normally no need to perform cleaning otherwise.
If drop-out occurs with printed images, clean the printing head.
* After cleaning, carry out a printing test. Load material.

Perform head cleaning only when there is dot drop-out (gaps) or printing becomes faint.
Performing head cleaning more than necessary subjects the heads to wear and consumes ink. In particular, cleaning performed at the [POWERFUL] menu for [HEAD CLEANING] can cause premature head wear and consume large amounts of ink. (Performing cleaning at the [POWERFUL] consumes approximately 45 cc of ink for each group. This is because all ink in the ink tubes is discharged and replaced with fresh ink.)

1 Press the [CLEANING] key, then press the [▼] key to display the screen shown in the figure. Press the [ENTER] key to start head cleaning.
You can choose to perform cleaning of only the right head or only the left head by pressing the [▼] key more times.
Press the [ENTER] key to start head cleaning.

2 When head cleaning ends, press the [▲] key to display the screen shown in the figure. Press the [ENTER] key to start the printing test.

3 Refer to "2-4 Test Printing" and check the printing-test results.
If a problem is found, repeat the cleaning.



If Drop-out Persists Even After Carrying Out Cleaning Several Times

1 Press the [MENU] key and [▼] key to make the following screen appear on the display.

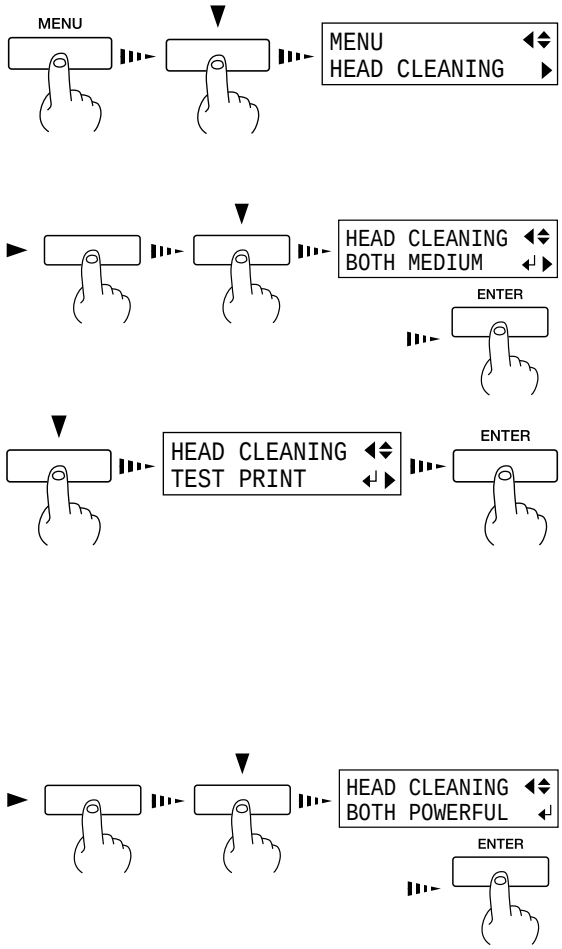
2 Press the [►] key and the [▼] key to display the screen shown in the figure.
You can choose to perform cleaning of only the right head or only the left head by pressing the [▼] key more times.
Press the [ENTER] key to start head cleaning ("medium").

3 When head cleaning ends, press the [▼] key to display the screen shown in the figure. Press the [ENTER] key to start the printing test.

4 Refer to "2-4 Test Printing" and check the printing-test results.
If a problem is found, repeat the cleaning.

5 If dot drop-out persists even after carrying out cleaning ("medium") several times, press the [►] key and the [▼] key to display the screen shown in the figure.
You can choose to perform cleaning of only the right head or only the left head by pressing the [▼] key more times.
Press the [ENTER] key to start head cleaning ("powerful").

6 When head cleaning finishes, perform a printing test to check the results.



If Performing Cleaning Several Times at the [POWERFUL] Menu Does Not Correct the Drop-out Problem

If performing cleaning several times at the [POWERFUL] menu does not correct the image drop-out problem, use the included cleaning kit. For information on how to use the cleaning kit, refer to the following section, "Using the Cleaning Kit to Clean the Printing Heads."

Using the Cleaning Kit to Clean the Printing Heads

If image drop-out persists even after performing cleaning with the cleaning kit, or if the cleaning kit is used up, contact your authorized Roland DG Corp. dealer or Roland DG Corp. service center.
The heads are consumable parts. The useful life is six billion shots per nozzle.

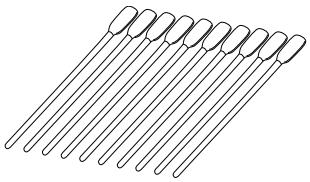
Cleaning using the cleaning kit should be carried out when automatic cleaning and forced cleaning from the [HEAD CLEANING] menu fail to correct image drop-out. Remove any ink buildup of dust or grime around the printing heads, which can cause image drop-out or ink drips. We also recommend performing periodic cleaning using the cleaning kit to prevent problems like these during printing.

Before starting cleaning, read through this section carefully to familiarize yourself with the procedures, then carry out the cleaning operations quickly and accurately.
Cleaning is performed while the caps on the printing heads are detached, so cleaning must be completed before the heads dry out. It is suggested that cleaning be completed in ten minutes or less.
If it appears that cleaning operations may take more than ten minutes, stop the cleaning operations and follow the steps below.

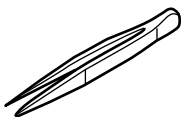
1. Return the carriage to standby position and cap the heads.
2. Attach the cover and tighten the screws.
3. Switch on the power, and from the [HEAD CLEANING] menu, carry out cleaning of the heads.
4. When the head cleaning ends, perform cleaning using the cleaning kit again.

Checking the Included Items

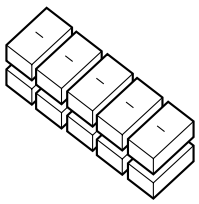
The following items are packed with the cleaning kit. Before use, check to make sure they are present.



Cleaning sticks -- 10



Tweezers -- 1 pair



Sponges (for cleaning the hooks) -- 10

Overview of the Cleaning Method

1) Switch off the power.

↓

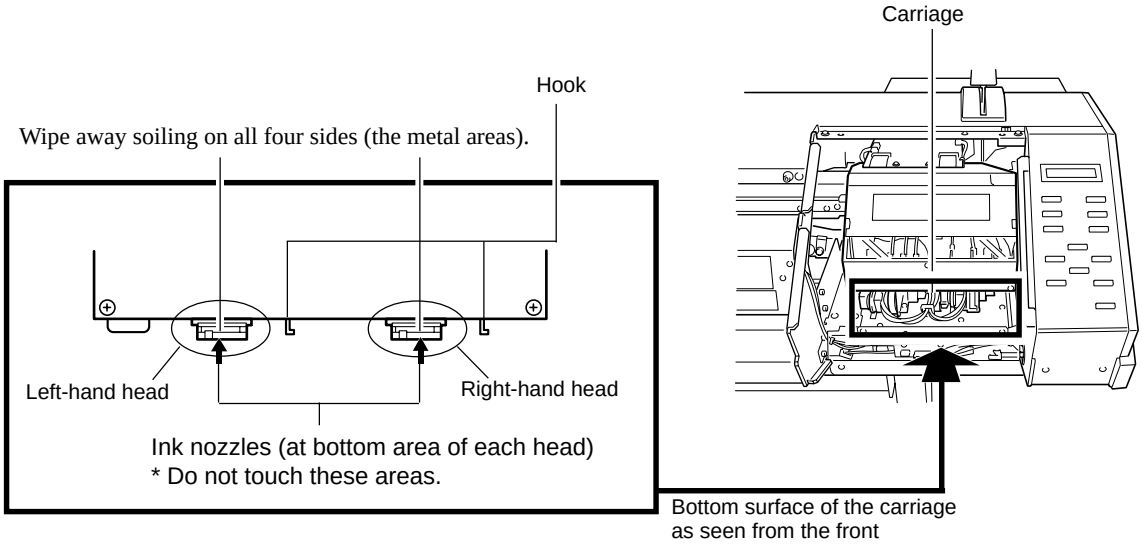
2) Detach the cover.

↓

3) Move the carriage away from standby position.

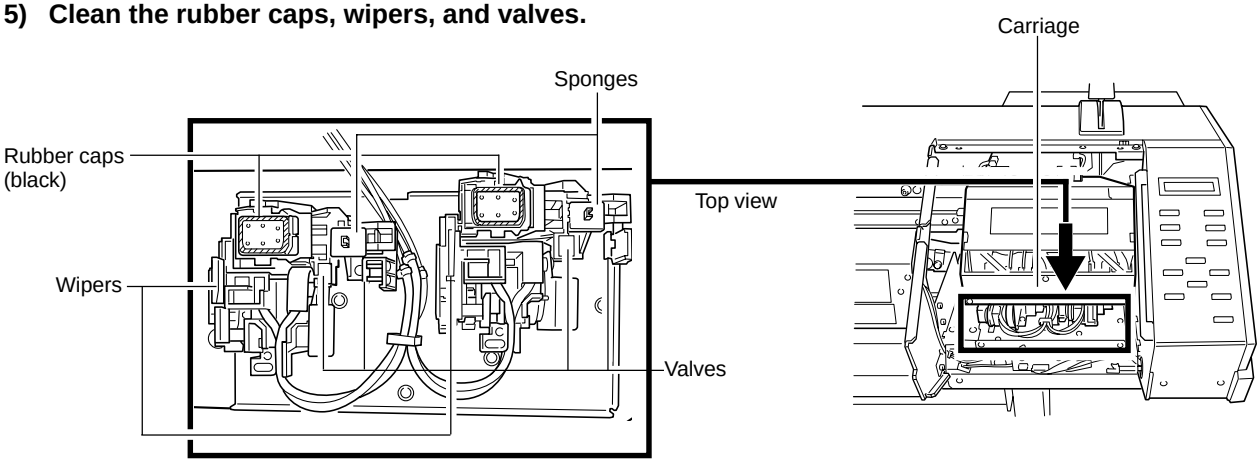
↓

4) Clean the heads (on the left and right sides) and the hooks inside the carriage, and clean between the hooks and the heads.


Carriage
Hook
Wipe away soiling on all four sides (the metal areas).
Left-hand head
Right-hand head
Ink nozzles (at bottom area of each head)
* Do not touch these areas.
Bottom surface of the carriage
as seen from the front

↓

5) Clean the rubber caps, wipers, and valves.



↓

6) Replace the sponge (for cleaning the hook). * Do this only if the sponge has soaked up ink.

↓

7) Return the carriage to standby position.

↓

8) Attach the cover.

↓

9) Switch on the power.

↓

10) Check the results of cleaning.

Performing Cleaning

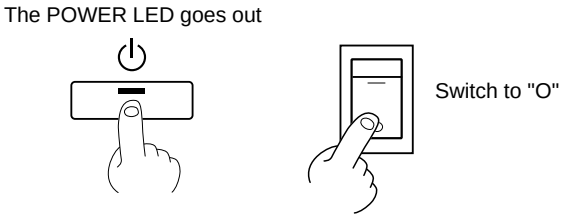
NOTICE

When attaching or detaching the cover, hold it only at the specified location.
Also, before starting cleaning, be sure to detach the cover.
It may be damaged if dropped.

When performing cleaning, do not touch any area other than the specified locations.
Doing so may damage the equipment.

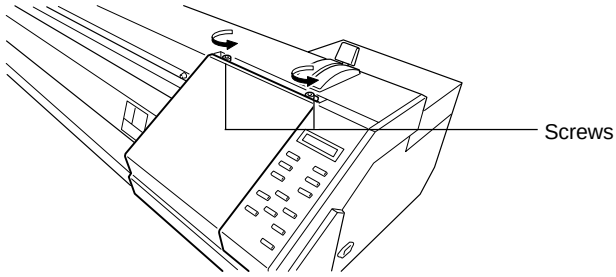
To discharge static electricity from your body, carry out cleaning as described in the procedure. Failure to follow the procedure for discharging static electricity may result in breakdown.

1 After pressing the [POWER] key to switch off the sub power, turn off the main power switch.



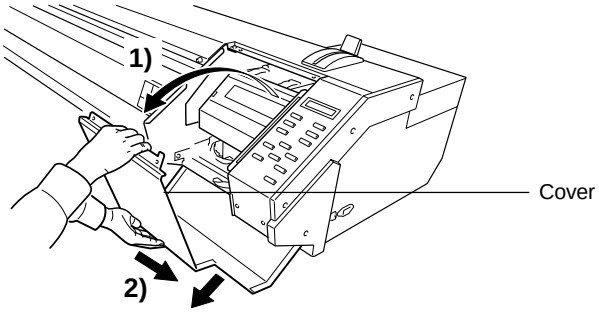
2 Open the front cover.

3 Detach the cover shown in the figure.
Remove the two screws.

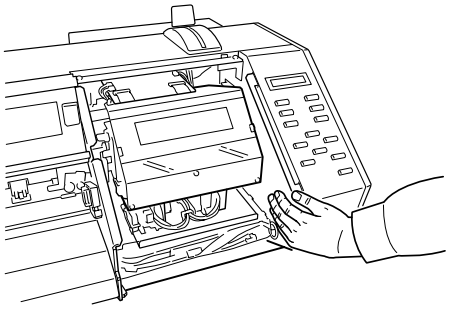


4

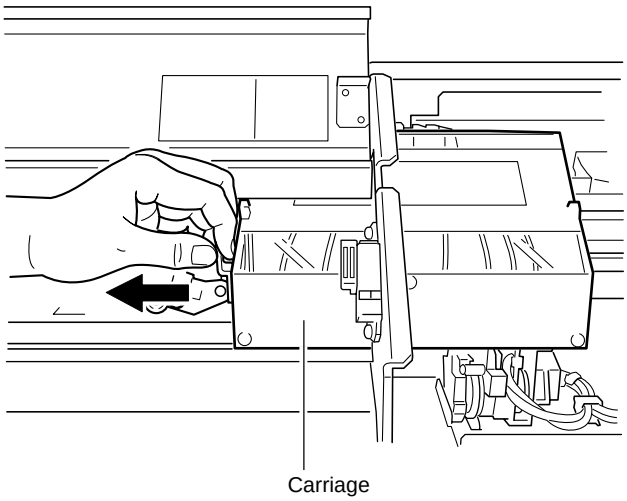
1) As shown in the figure, place the hand on the bottom portion of the cover and flip the top portion back toward you.
2) Slide the cover to the right to detach it.



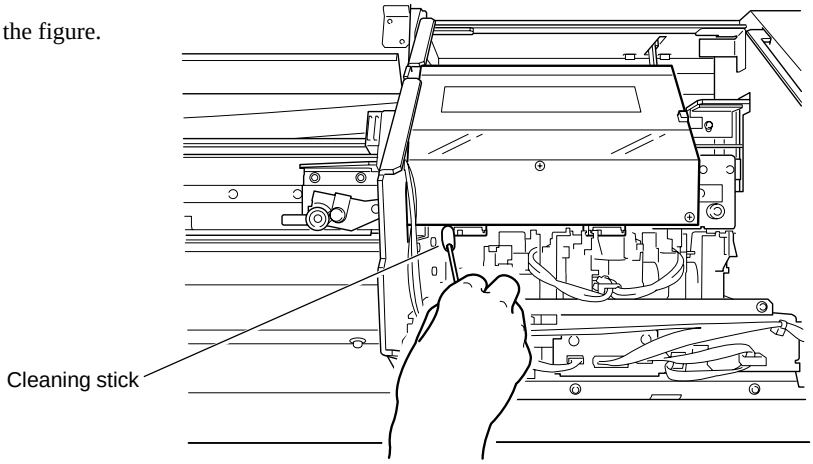
5 To discharge static electricity from your body, touch the location shown in the figure.



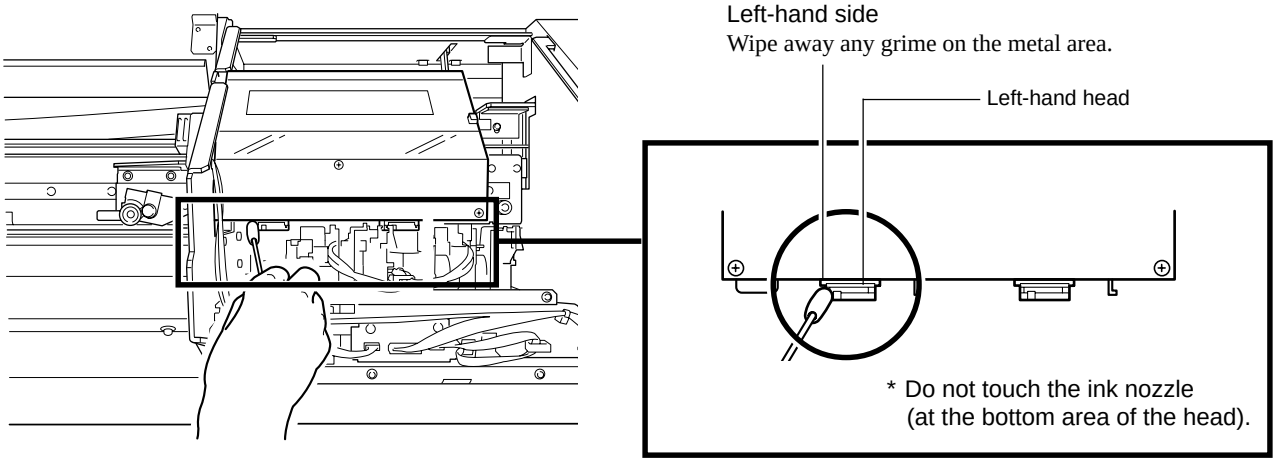
6 Pull out the carriage in the direction shown in the figure.
You may need to apply slight force to move it.



7 Insert a cleaning stick into the space shown in the figure.



8 Move the carriage to a location where the cleaning stick reaches the left-hand side surface of the left-hand head, and wipe away any grime on the left-hand side surface (the metal area) of the left-hand head.


Left-hand side
Wipe away any grime on the metal area.
Left-hand head
* Do not touch the ink nozzle
(at the bottom area of the head).

Continued on the next page

NOTICE

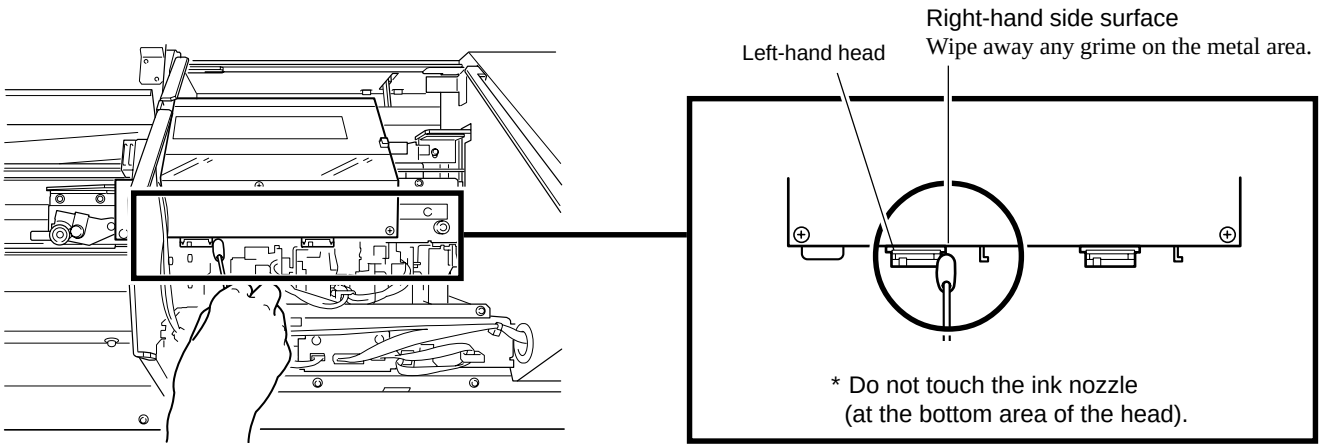
Do not touch the ink nozzle (at the bottom area of the head).

Wipe only the silver-colored metal area.

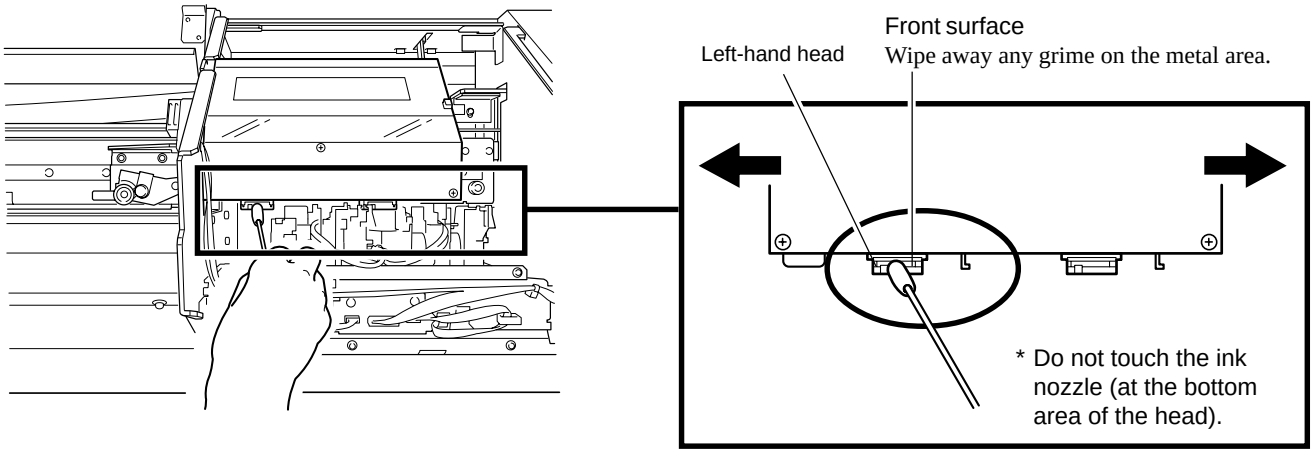
There is no need to apply force when wiping. You can remove dust by simply stroking the surface.

Do not use a soiled cleaning stick.
Use lint-free tissue or the like to remove grime adhering to a cleaning stick. Also, if a cleaning stick becomes extremely dirty, discard it and perform cleaning with a new one.

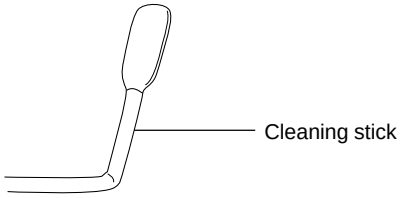
9 Move the carriage to a location where the cleaning stick reaches the right-hand side surface of the left-hand head, and wipe away any grime on the right-hand side surface (the metal area) of the left-hand head.


Right-hand side surface
Wipe away any grime on the metal area.
Left-hand head
* Do not touch the ink nozzle
(at the bottom area of the head).

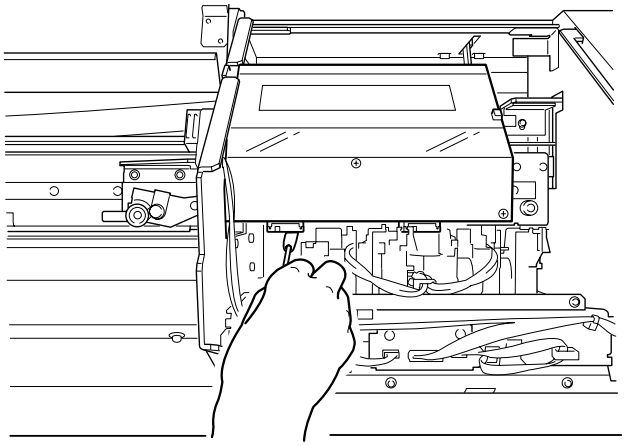
10 Move the carriage to a location where the cleaning stick reaches the front surface of the left-hand head.
While holding the tip of the cleaning stick against the front of the head, move the carriage to the left and right to wipe away grime.


Front surface
Wipe away any grime on the metal area.
Left-hand head
* Do not touch the ink nozzle (at the bottom area of the head).

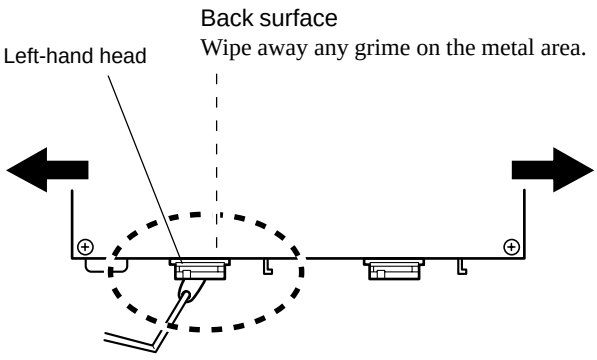
11 Bend a cleaning stick as shown in the figure.



12 Insert the cleaning stick into the space shown in the figure as far as it will go.



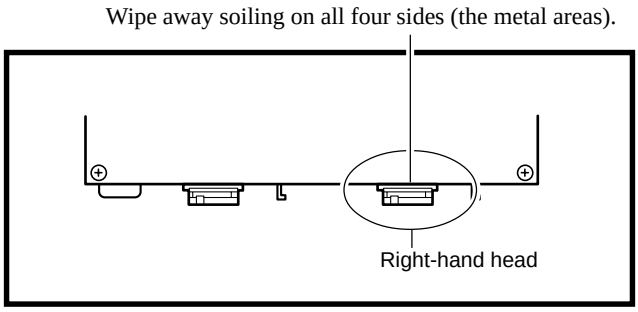
13 Move the carriage to a location where the cleaning stick reaches the back surface of the left-hand head.
While holding the tip of the cleaning stick against the back of the head, move the carriage to the left and right to wipe away grime.



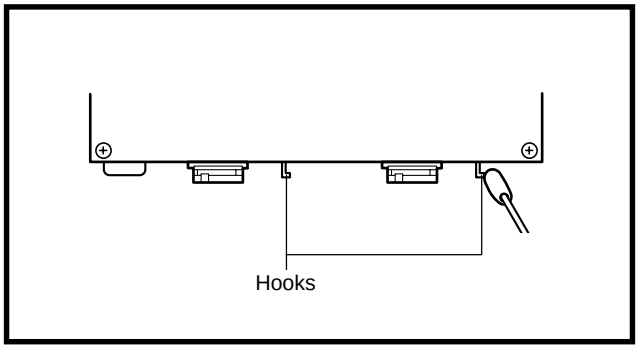
* Do not touch the ink nozzle (at the bottom area of the head).

Continued on the next page

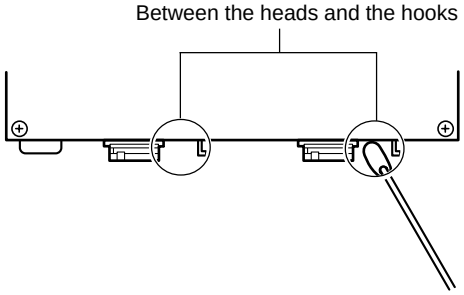
14 Repeat steps 7 through 13 to clean the right-hand head in the same way.



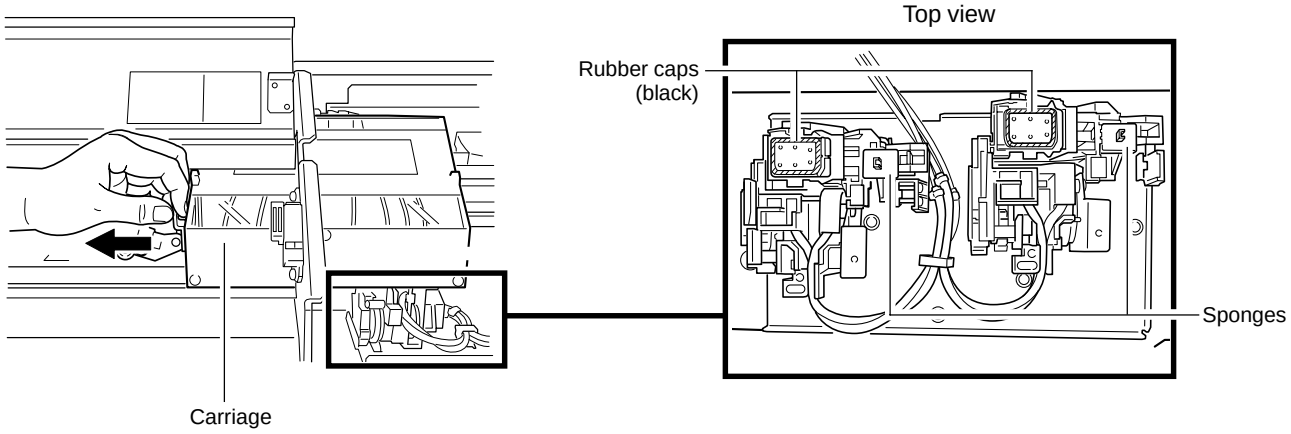
15 Clean the hooks on the right side of the left and right heads (two places).



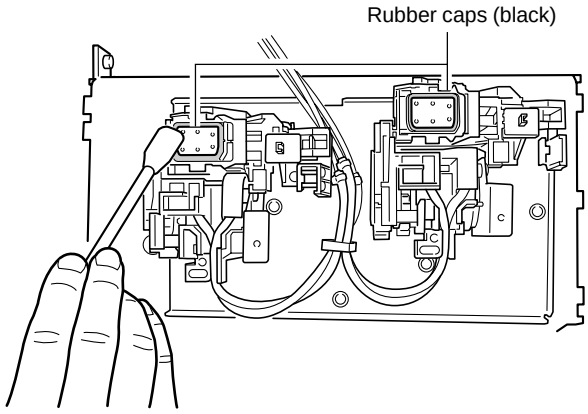
16 Wipe away any grime between the heads and the hooks (two places). These areas are susceptible to buildup of grime. Wipe them off carefully.



17 Pull the carriage by hand to move it to the left-hand side until the black rubber caps, sponges, and tubes can be seen.



18 Wipe away any grime adhering to the edges of the left-hand and right-hand rubber caps. Use the tip of the cleaning stick to scrape off grime.



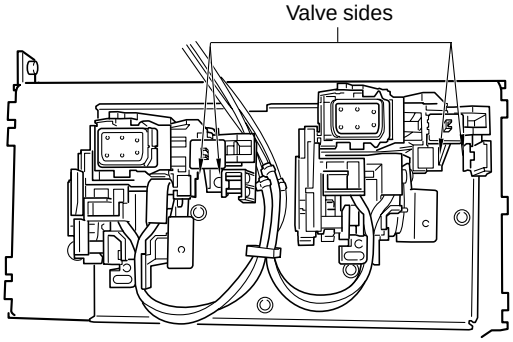
NOTICE

Be sure to use one of the included cleaning sticks.

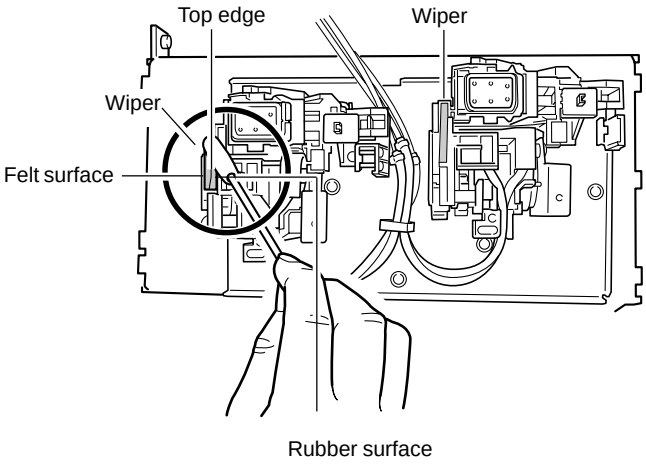
If no grime is present, do not touch the sponges inside the rubber caps.

When removing grime adhering to the sponge inside a rubber cap, touch the sponge gently with the tip of the cleaning stick to pick up the grime. Rubbing forcefully may damage the surface of the sponge.

19 Wipe away any ink buildup on the valve sides (four places).



20 Clean the wiper areas (two places on the left and right). When viewed from the front, the wiper has a rubber surface on its right-hand side and a felt surface on its left-hand side. Clean mainly the rubber surface and the top edge.

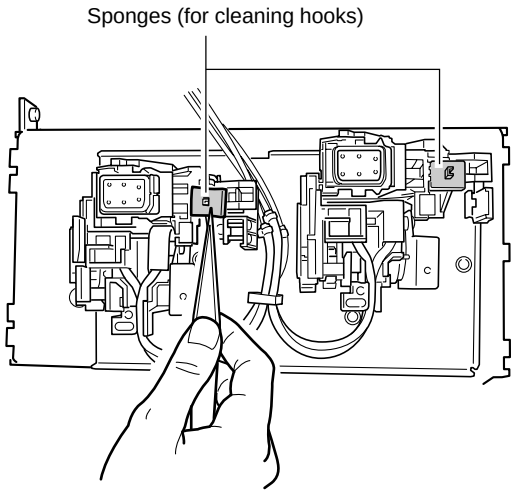


NOTICE

Rubbing the felt surface with too much force may make the surface fuzzy. Remove grime by stroking gently several times with the tip of the cleaning stick.

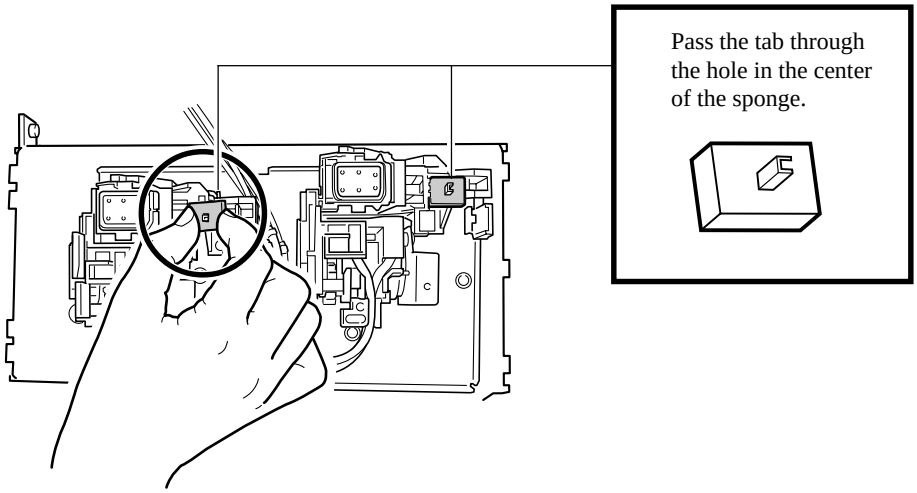
Continued on the next page

21 If ink is oozing from the sponges shown in the figure (two places), replace them with new sponges.
Use the included tweezers to pull them out from above.

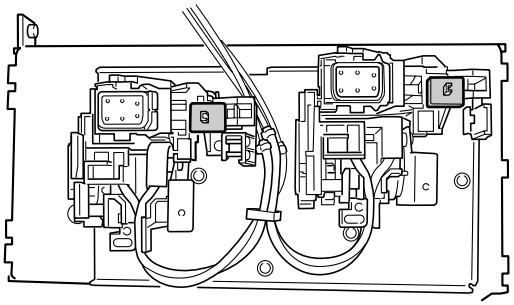


* If the sponge is not oozing ink, it doesn't need to be replaced. Skip ahead to step 24.

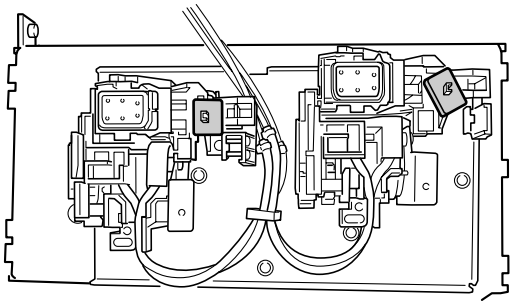
22 Orient a new sponge (included with the cleaning kit) as shown in the figure (lengthwise) and insert it.



Orient as shown in the figure (lengthwise) and attach it, being careful to hold it straight as you do so.
There is no distinction between left and right or between front and back.



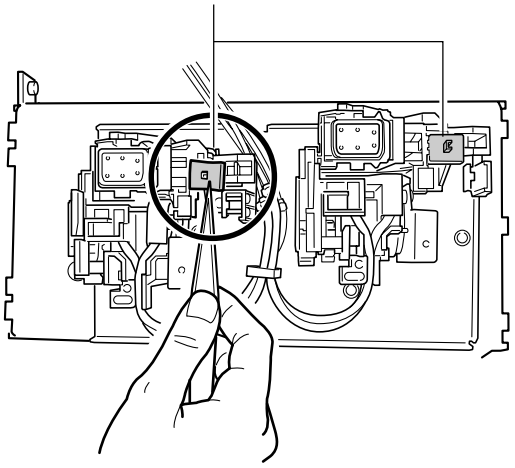
OK



Not OK

23 Use the tweezers to press down the sponge.
Slowly press it downward until it makes contact.

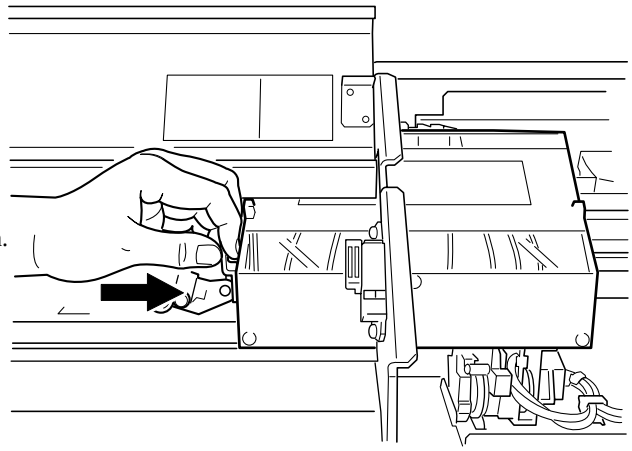
Use the tweezers to press down the sponge.



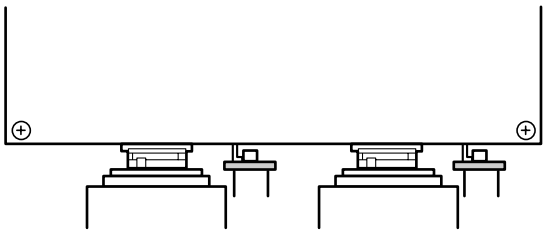
24 Return the carriage to standby position.

NOTICE If allowed to stand with the carriage remaining away from standby position for a prolonged period, problems such as drying-out of the printing heads or dot drop-out during printing may occur. When finished cleaning, promptly return the carriage to standby position.

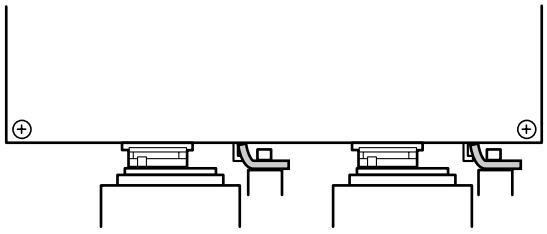
Move inward until flush.



25 Make sure there is a sponge under the hook.
If the sponge is not at the location shown in the figure (OK), repeat steps 22 and 23.



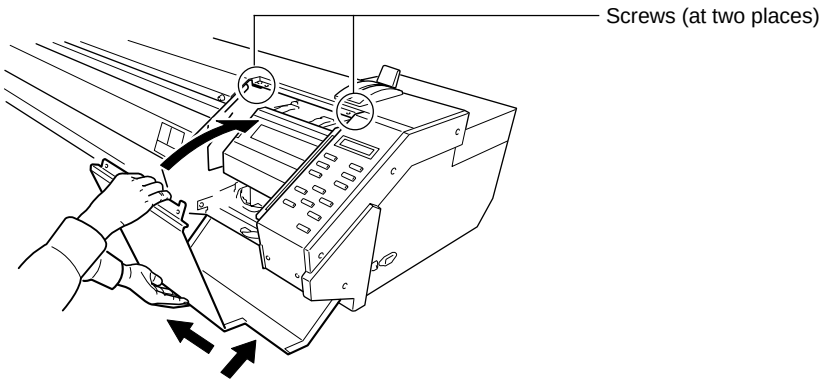
OK



Not OK

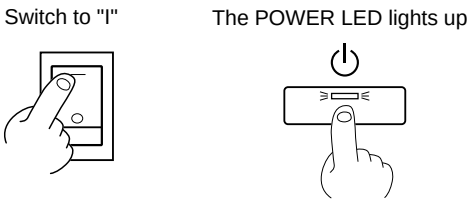
Continued on the next page

26 Attach the cover.



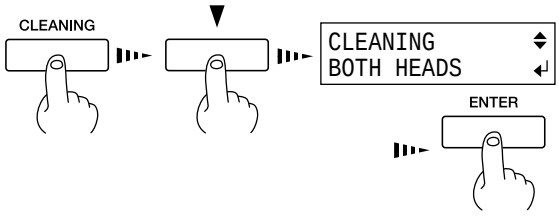
27 Close the front cover.

28 Turn on the main power switch at the side of the unit, then press the [POWER] key to switch on the sub power.

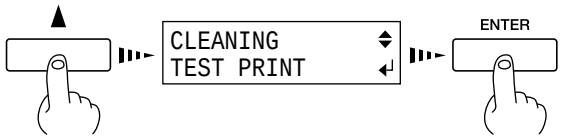


29 Load the material.

30 Press the [CLEANING] key, then press the [▼] key to display the screen shown in the figure. Press the [ENTER] key, head cleaning starts.



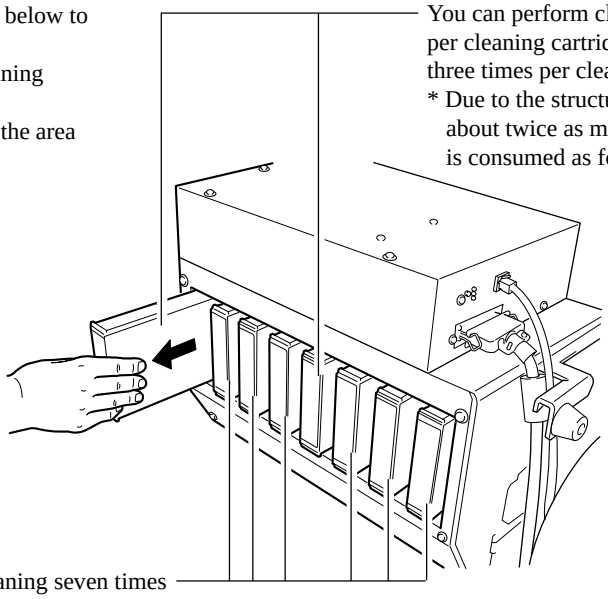
31 When head cleaning ends, press the [▲] key to display the screen shown in the figure. Press the [ENTER] key to start the printing test.



32 Examine the printing test results to make sure all dots are printed attractively.

3-4 Changing the Type of Ink

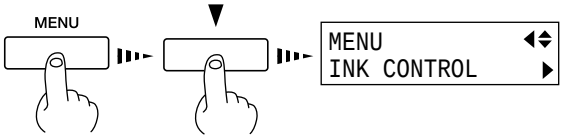
When changing the type of ink in use, follow the steps below to replace the ink.
Ink replacement requires four optionally available cleaning cartridges.
The amount of cleaning fluid used varies according to the area cleaned.



You can perform cleaning four times per cleaning cartridge (for the FJ-600, three times per cleaning cartridge).
* Due to the structure of the head, about twice as much cleaning fluid is consumed as for other areas.

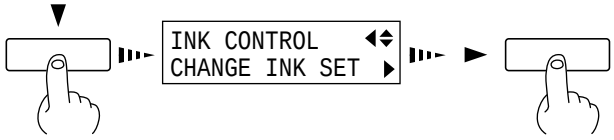
You can perform cleaning seven times per cleaning cartridge(for the FJ-600, six times per cleaning cartridge).

1 Press the [MENU] key and [▼] key to make the following screen appear on the display.

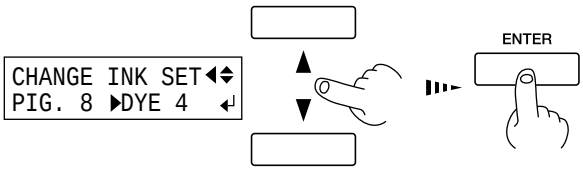


2 Press the [►] key to make the following screen appear on the display.

3 Use the [▼] key to select [CHANGE INK SET], then press the [►] key.



4 Use the [▲] and [▼] keys to select the new type of ink to use, then press the [ENTER] key.
* When you are changing from [PIG. 8] (eight-color pigment ink) to something else, turn over the plates for the ink-cartridge ports. For more information, refer to "2-1 Installing Ink Cartridges" -- "Before You Install the Ink Cartridges" and "Turn Over the Plate."



- PIG. 8: Pigmented ink (orange, green, light cyan, light magenta, black, cyan, magenta, and yellow)
- PIG. 4: Pigmenedt ink (black, cyan, magenta, and yellow - two sets)
- DYE 4: Dye-based ink (black, cyan, magenta, and yellow - two sets)
- PIG&DYE: Dye-based ink (black, cyan, magenta, and yellow) and pigmented ink (black, cyan, magenta, and yellow)

Continued on the next page

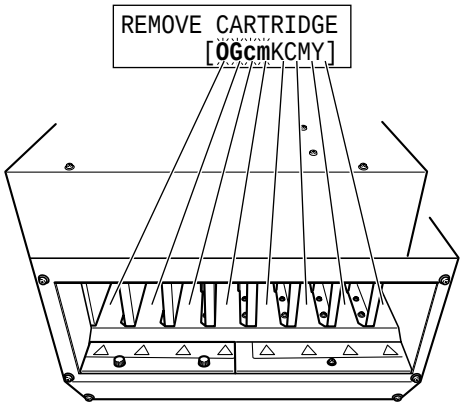
5 When the display shown in the figure appears, discard the discharged ink in the drain bottle.
* Be sure to discard the discharged ink. Attempting to replace the ink while discharged ink remains may cause discharged ink to overflow from the bottle.

```
EMPTY
     DRAIN TANK↵
```

6 Attach the drain bottle and press the [ENTER] key.
The colors for the ink cartridges to pull out flash according to the type of ink you are changing.

```
REMOVE CARTRIDGE
     [OGcmKCMY]
```

The ink cartridge to pull out is at the location shown in the figure.



In the preceding example, the ink type is [PIGMENT 8COLOR]. For [PIGMENT 4COLOR], [DYE 4COLOR], or [PIGMENT & DYE 4], "KCMY" is displayed instead of "OGcm."

7 After you have pulled out all the ink cartridges whose colors are flashing, ink replacement starts. Follow the messages on the display to carry out the procedure.
If you are replacing all eight ink colors, then when you finish replacing the first four colors, the display returns to the screen shown in step 6.
Follow the messages on the display to replace the remaining four colors.

Messages appearing during ink replacement

```
SET CLEANING
LIQUID[OGcmKCMY]
```

Insert a cleaning cartridge into the ink cartridge port for the flashing color.

```
REMOVE CLEANING
LIQUID[OGcmKCMY]
```

Remove the cleaning cartridge from the ink cartridge port for the flashing color.

O = Orange, G = Green, c = Light Cyan, m = Light Magenta, K = Black, C = Cyan, M = Magenta, Y = Yellow

8 When the display shown in the figure appears, discard the discharged ink in the drain bottle.
* Be sure to discard the discharged ink. Attempting to replace the ink while discharged ink remains may cause discharged ink to overflow from the bottle.

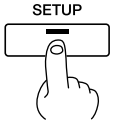
```
EMPTY
     DRAIN TANK↵
```

9 When the display shown in the figure appears, insert the ink cartridge to be newly used.
The colors for the ink cartridges to insert flash according to the type of ink you are changing.
* When set to [PIG&DYE] (four-color pigment ink and four-color dye-based ink), then while facing the back of the machine, insert the dye-based ink cartridges in the four places on the left and the pigment ink cartridges in the four places on the right.

```
SET CARTRIDGE
     [OGcmKCMY]
```

10 When the display shown in the figure appears, ink replacement is finished.
Press the [SETUP] key to go back to the top menu.

```
CHANGE INK SET◆◆
PIG. 8 ▶PIG. 8 ↵
```

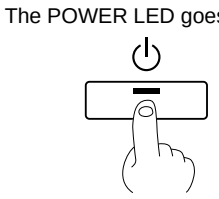


3-5 Disposing of Discharged Ink

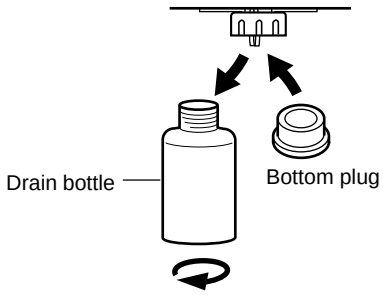
Dispose of ink in the drain bottle as described below.

If any ink gets on your hands or clothing, wash it off as soon as possible. Ink stains may become difficult to remove if allowed to stand.

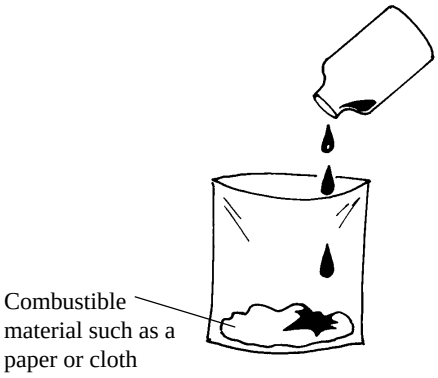
1 Press the [POWER] key to switch off the sub power.



2 Remove the drain bottle and attach the bottom plug.



3 Put a water-absorbent, combustible material such as a paper or cloth into the plastic bag, and soak up the ink.

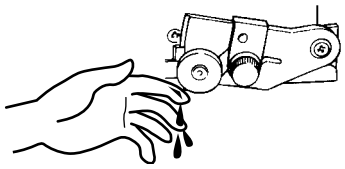


4 Dispose of it as combustible material impregnated with discharged ink.

3-6 How to Replace the Separating Knife

⚠CAUTION

Do not touch the tip of the separating knife with your fingers.
Doing so may result in injury.



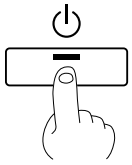
Make sure the power to the unit is off before attempting to replace the separating knife.
Doing so may result in injury.

NOTICE When replacing the knife, do not pull out the carriage.
If the machine is allowed to stand for a prolonged period with the carriage pulled out, head clogging or even damage to the printing heads may occur.

If the separating knife becomes dull, replace with the included replacement blade.

1 Press the [POWER] key to switch off the power.

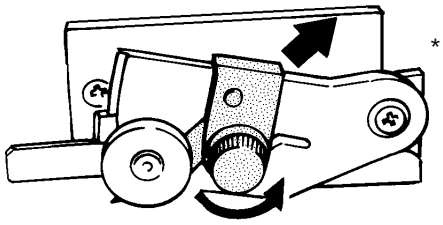
The POWER LED goes out



2 Turn off the main power switch.

3 Remove the separating knife.

(2) Grasp the screw portion, and slowly pull it out in the direction of the arrow.

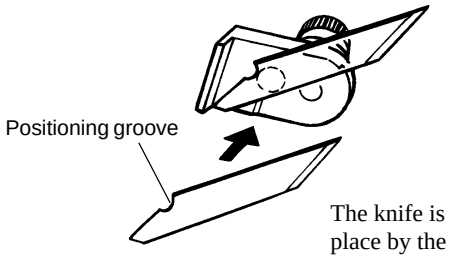


* Do not pull back while doing this.

(1) Loosen the screw until it slips out.

* If a blade remains in the carriage, use the tweezers in the cleaning kit to remove it.

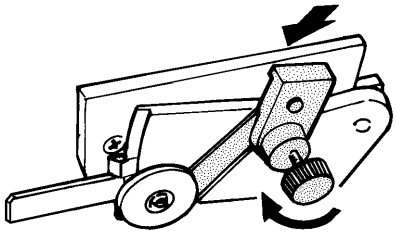
4 Replace with a new knife.



The knife is secured in place by the magnet.

5 Install the separating knife.

(1) Grasp the screw portion and slowly insert it into the groove.



(2) Tighten the screw.

* Take care to ensure that the knife does not slip.

3-7 Cleaning

NOTICE

When performing cleaning, turn off the main power switch.
* Before turning off the main power, press the [POWER] key to switch off the sub power.

Never lubricate the mechanisms.

Do not clean with solvents (such as benzine or thinners).

Periodically clean the platen. Attractive printing may become impossible if the platen is soiled.

Do not touch the printing heads or allow the printing heads to come in contact with anything except ink.

Cleaning the body

Use a cloth moistened with water then wrung well, and wipe gently to clean. Wipe the operation panel and display gently with a clean, soft cloth.

Cleaning the platen

Use a cloth moistened with water then wrung well, and wipe gently to clean.
For buildup of cutting dust on the platen, use a commercially available brush to brush them away toward the front.

Cleaning the grit rollers

Use a commercially available brush to remove dust and other detritus.
Any adhering grime may prevent the material from being held in place securely.

Cleaning the pinch rollers

Use a cloth moistened with water then wrung well, and wipe gently to clean.

Cleaning the reflective tape

If the tape becomes dirty, use a cloth moistened with water then wrung well, and wipe gently to clean.

Cleaning the front cover

Use a cloth moistened with water then wrung well, and wipe gently to clean.

3-8 When Moving the Unit...

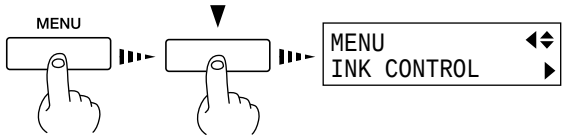
NOTICE

When moving the unit, first carry out head washing, then secure the carriage in place. Head washing requires four optionally available cleaning cartridges.

Do not attempt to move with the FJ-600/500/400 unit upside down. Doing so may cause discharged fluid remaining in the machine to spill or leak, resulting in breakdown or faulty operation.

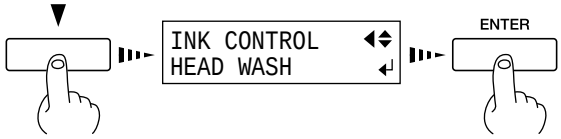
1 If there is material loaded, hold down the [SETUP] key for 1 second or longer to cancel setup, then remove the material (see "2-6 Ending Printing Operations - Remove the Material").

2 Press the [MENU] key and [▼] key to make the following screen appear on the display.

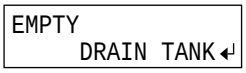


3 Press the [►] key to make the following screen appear on the display.

4 Use the [▼] key to select [HEAD WASH], then press the [ENTER] key.



5 When the display shown in the figure appears, discard the discharged ink in the drain bottle.
* Be sure to discard the discharged ink.
Attempting to clean the heads while discharged ink remains may cause discharged ink to overflow from the bottle.



6 Mount the drain bottle and press the [ENTER] key to display the screen shown in the figure.

Continued on the next page

7 After you have pulled out all the ink cartridges whose colors are flashing, head cleaning starts. Follow the messages on the display to carry out the procedure. When cleaning for the first four colors finishes, the display returns to the screen shown in step 6. Follow the messages on the display to perform cleaning for the remaining four colors.

Messages appearing during head washing

```
SET CLEANING
LIQUID[OGcmKCMY]
```

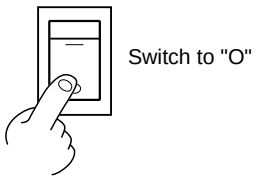
Insert a cleaning cartridge into the ink cartridge port for the flashing color.

```
REMOVE CLEANING
LIQUID[OGcmKCMY]
```

Remove the cleaning cartridge from the ink cartridge port for the flashing color.

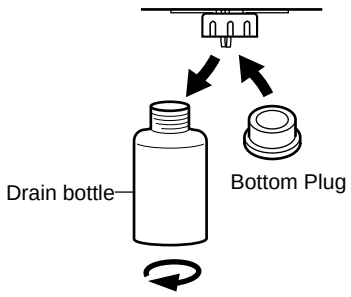
O = Orange, G = Green, c = Light Cyan, m = Light Magenta, K = Black, C = Cyan, M = Magenta, Y = Yellow

8 When head cleaning finishes, the sub power shuts of automatically.
Switch off the main power switch.



9 Detach the power cord and the cable connecting the unit to the computer.

10 Remove the drain bottle and attach the bottom plug instead.



11 Referring to "Unpacking and Repacking" on the packing carton, secure the carriage in place and pack the unit in the carton.

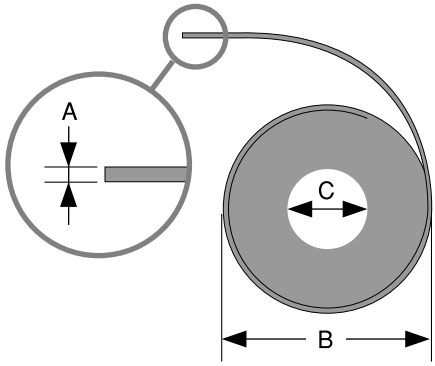
4 User's Reference

4-1 Materials

* Use genuine media for the FJ-600/500/400.

Conditions for Usable Materials

A) Maximum material thickness : 1.0 mm (0.039 in.) (When head is raised)
B) Maximum diameter for roll material : 180 mm (7-1/16 in.) (Surface to be printed must face outward)
C) Core inner diameter for roll material: 50.8 mm or 76.2 mm (2 in. or 3 in.)
D) Maximum weight for roll material : 20 kg (44.1 lb.)
E) Roll material that is not taped down to the paper tube



Side view of roll material

Acceptable Material Widths

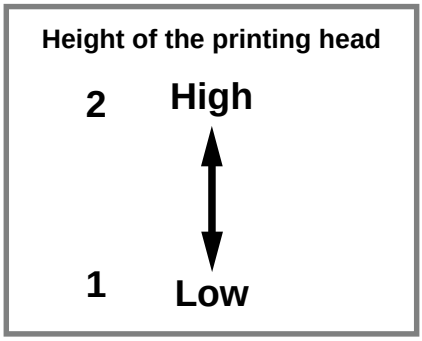
FJ-600
210 to 1625 mm (8-5/16 to 64 in.)

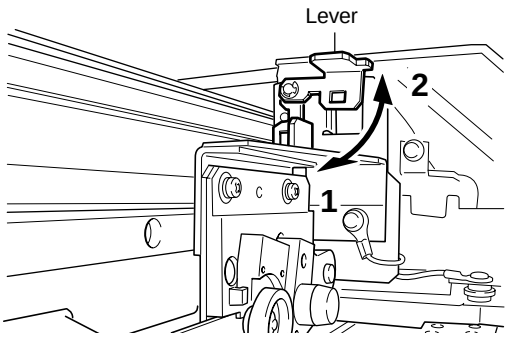
FJ-500
210 to 1371 mm (8-5/16 to 54 in.)

FJ-400
210 to 1117 mm (8-5/16 to 44 in.)

4-2 Adjusting the Height of the Printing Head

When using material that is thick or susceptible to warping, material feed may not proceed smoothly, or the material may jam. When such material is loaded, you can adjust the height of the printing head.
This should normally be left at position 1 (low). If printing results in material feed that is not smooth because of problems such as the material jamming or the head catching on the material, position at 2 (high).
When the height of the printing head has been adjusted, it is necessary to perform bidirectional correction (only when the printing direction for [PRINT QUALITY] has been set to [BI-DIRECTION]). For more information about bidirectional correction, see "2-5 Printing - Making Corrections for Printing - Bidirectional Correction."

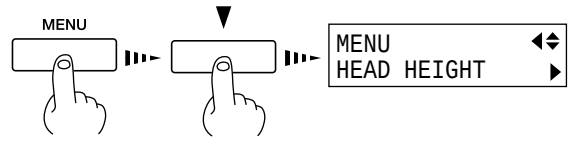




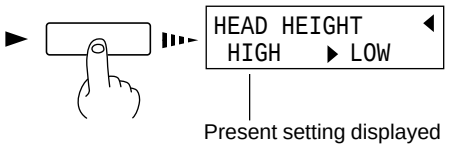
Continued on the next page

1 Open the front cover.

2 Press the [MENU] key and the [▼] key to display the screen shown in the figure.



3 Press the [►] key to display the screen shown in the figure.
When the screen shown in the figure appears, the carriage simultaneously moves to the left.



4 Move the lever to adjust the height of the head.
When you move the lever, the machine beeps and the screen display changes.

- When the lever is moved to position 1 (low):
  One beep
- When the lever is moved to position 2 (high):
  Two beeps

* Move the lever until it stops. If it is not at position 1 or position 2, bidirectional printing may be misaligned.

5 Press the [◄] key to return the carriage to standby position.

6 Close the front cover.

4-3 Printing Area

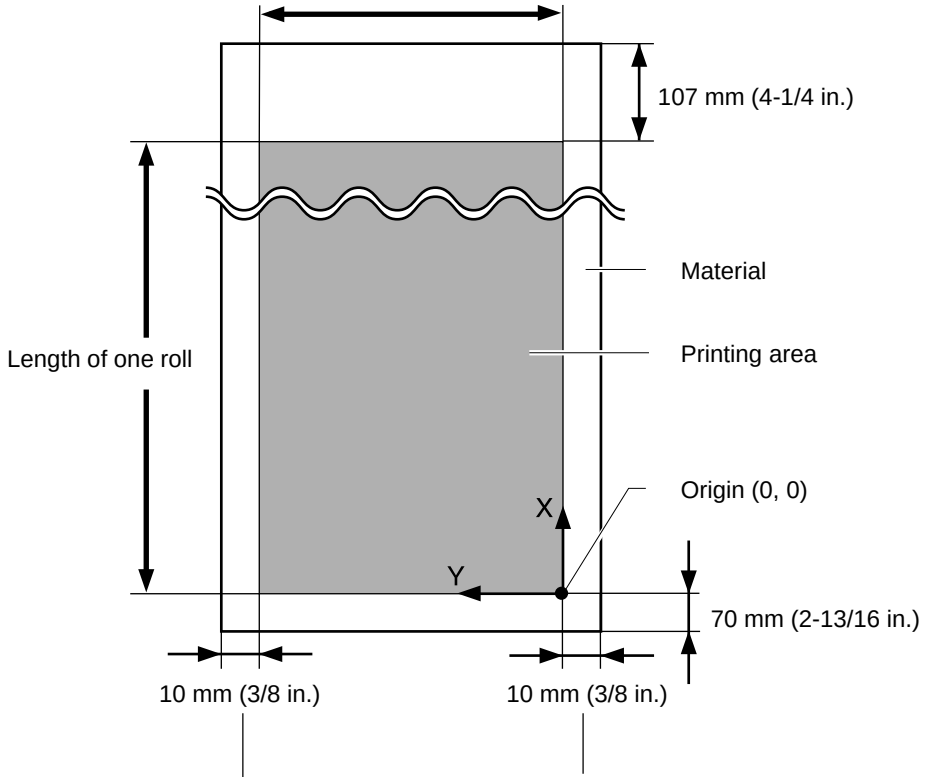
The material's printable width (the direction of carriage movement) is determined by the width of the loaded material. When the [SETUP] key is pressed after loading the material, the width of the material is detected and the printing area appears on the display. The printing area is normally 10 mm (3/8 in.) inward from the respective left- and right-hand edges of the material.
When the printable width have been specified with the [PRINT AREA] menu, the margins are in accordance with these setting values.

Maximum printing width

[FJ-600]
1615 mm (63-9/16 in.)

[FJ-500]
1361 mm (53-9/16 in.)

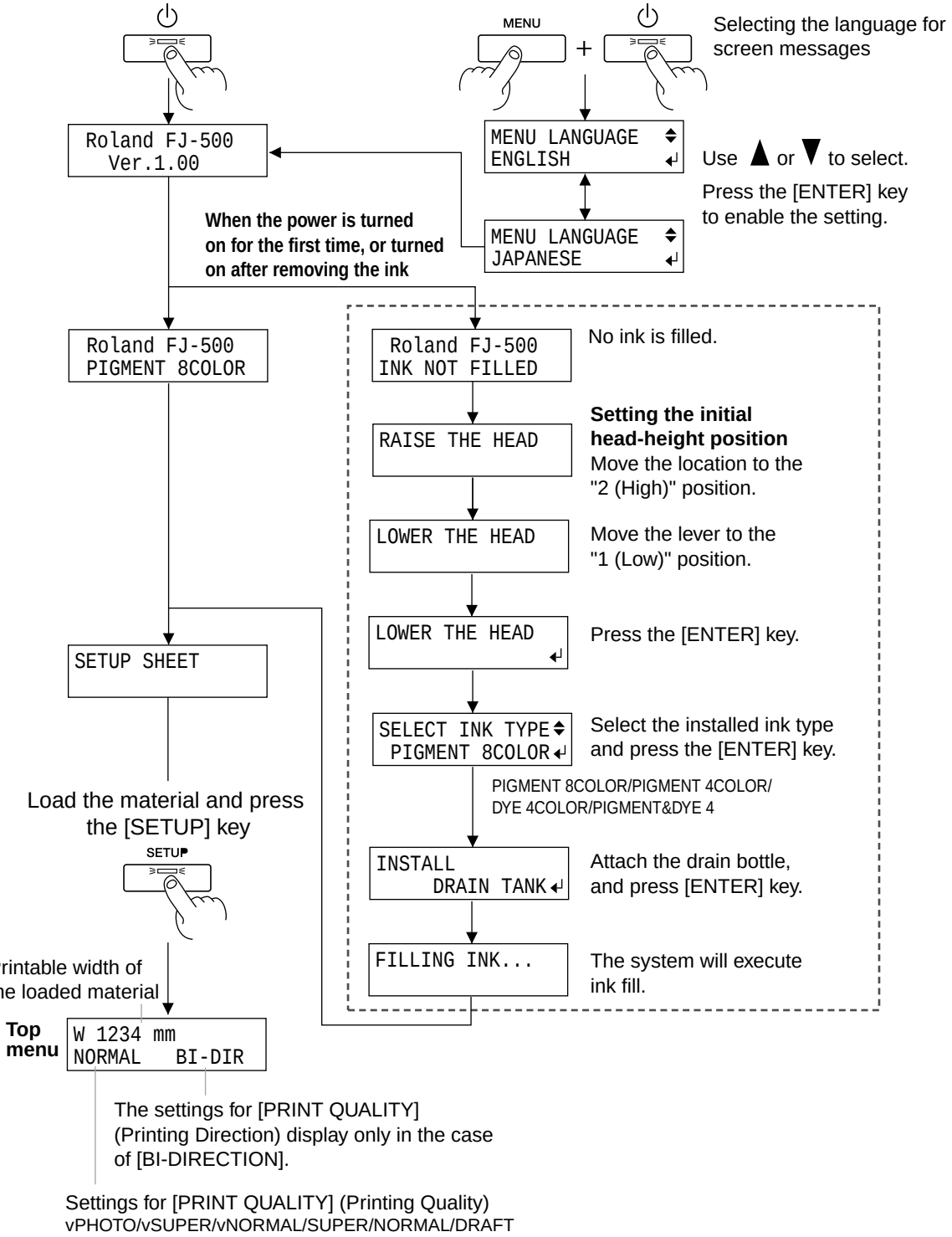
[FJ-400]
1107 mm (43-9/16 in.)

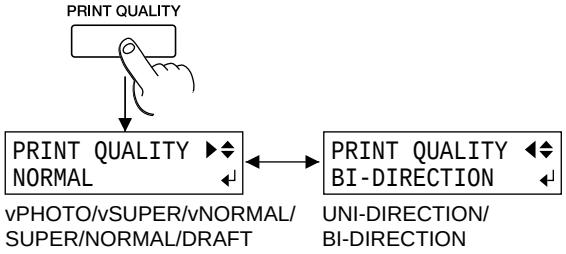


When the printable width have been specified with the [PRINT AREA] menu, the margins are in accordance with these setting values.

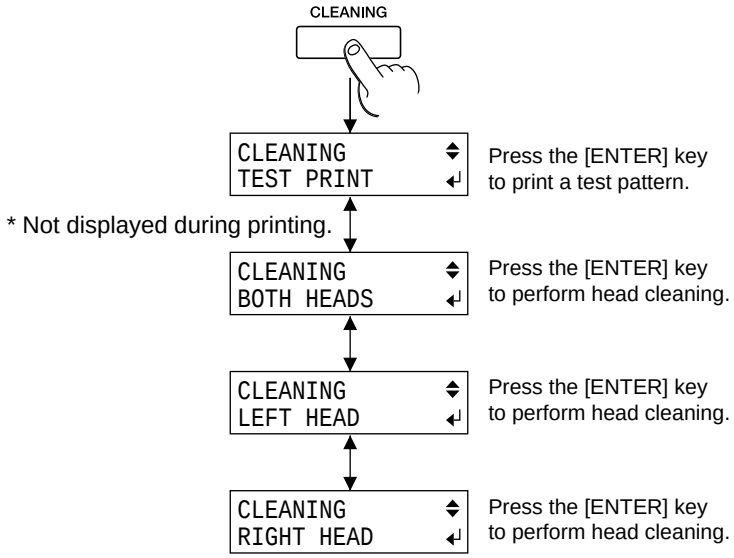
4-4 Display Menus Flowchart

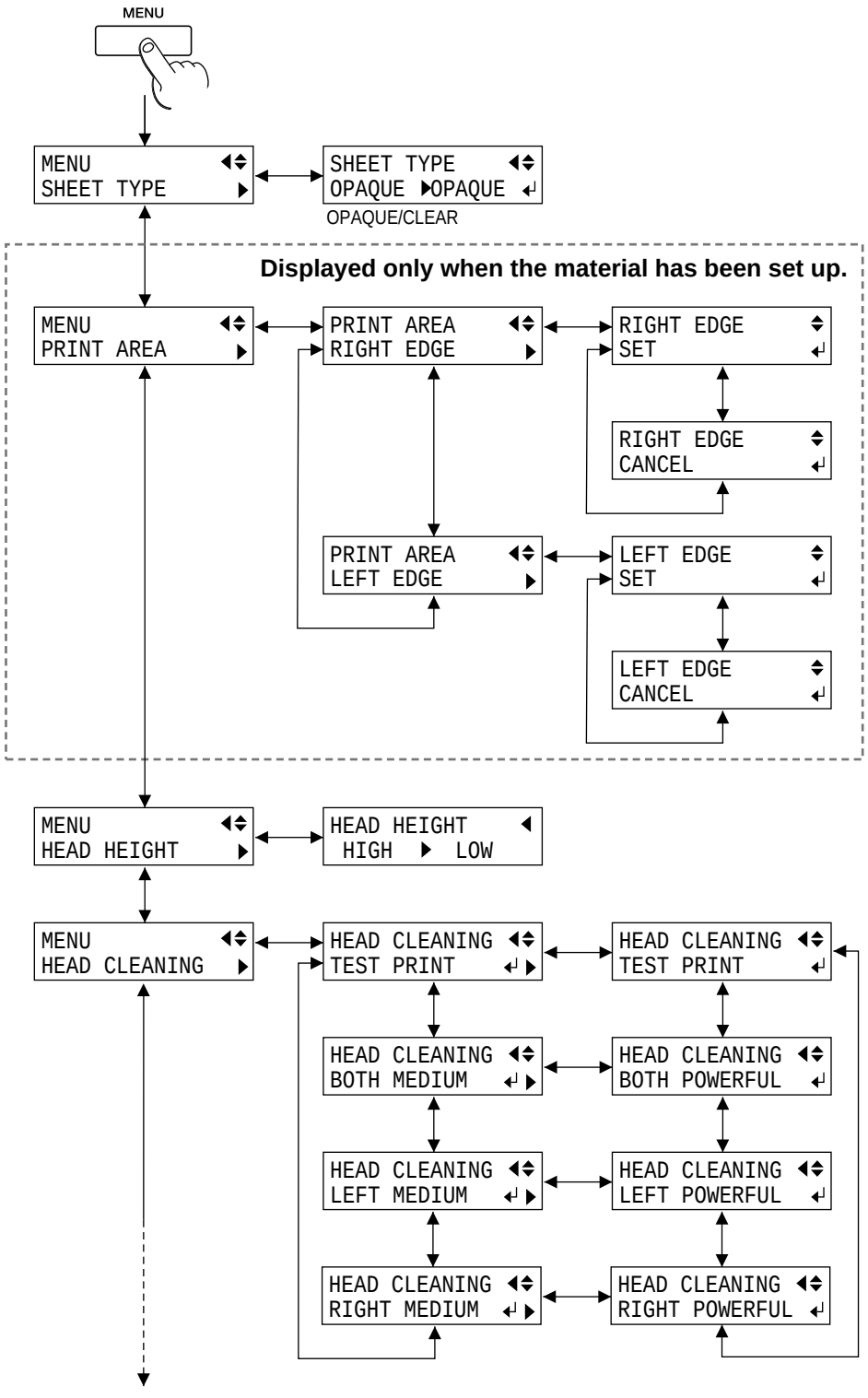
For details about each of the menus, see the "4-5 Description of Keys and Display Menus."


MENU
Selecting the language for screen messages
Roland FJ-500
Ver.1.00
MENU LANGUAGE
ENGLISH
Use ▲ or ▼ to select.
Press the [ENTER] key to enable the setting.
MENU LANGUAGE
JAPANESE
When the power is turned on for the first time, or turned on after removing the ink
Roland FJ-500
PIGMENT 8COLOR
Roland FJ-500
INK NOT FILLED
No ink is filled.
Setting the initial head-height position
RAISE THE HEAD
Move the location to the "2 (High)" position.
LOWER THE HEAD
Move the lever to the "1 (Low)" position.
LOWER THE HEAD
Press the [ENTER] key.
SETUP SHEET
SELECT INK TYPE
PIGMENT 8COLOR
Select the installed ink type and press the [ENTER] key.
PIGMENT 8COLOR/PIGMENT 4COLOR/
DYE 4COLOR/PIGMENT&DYE 4
Load the material and press the [SETUP] key
SETUP
INSTALL
DRAIN TANK
Attach the drain bottle, and press [ENTER] key.
FILLING INK...
The system will execute ink fill.
Printable width of the loaded material
Top menu
W 1234 mm
NORMAL BI-DIR
The settings for [PRINT QUALITY] (Printing Direction) display only in the case of [BI-DIRECTION].
Settings for [PRINT QUALITY] (Printing Quality)
vPHOTO/vSUPER/vNORMAL/SUPER/NORMAL/DRAFT



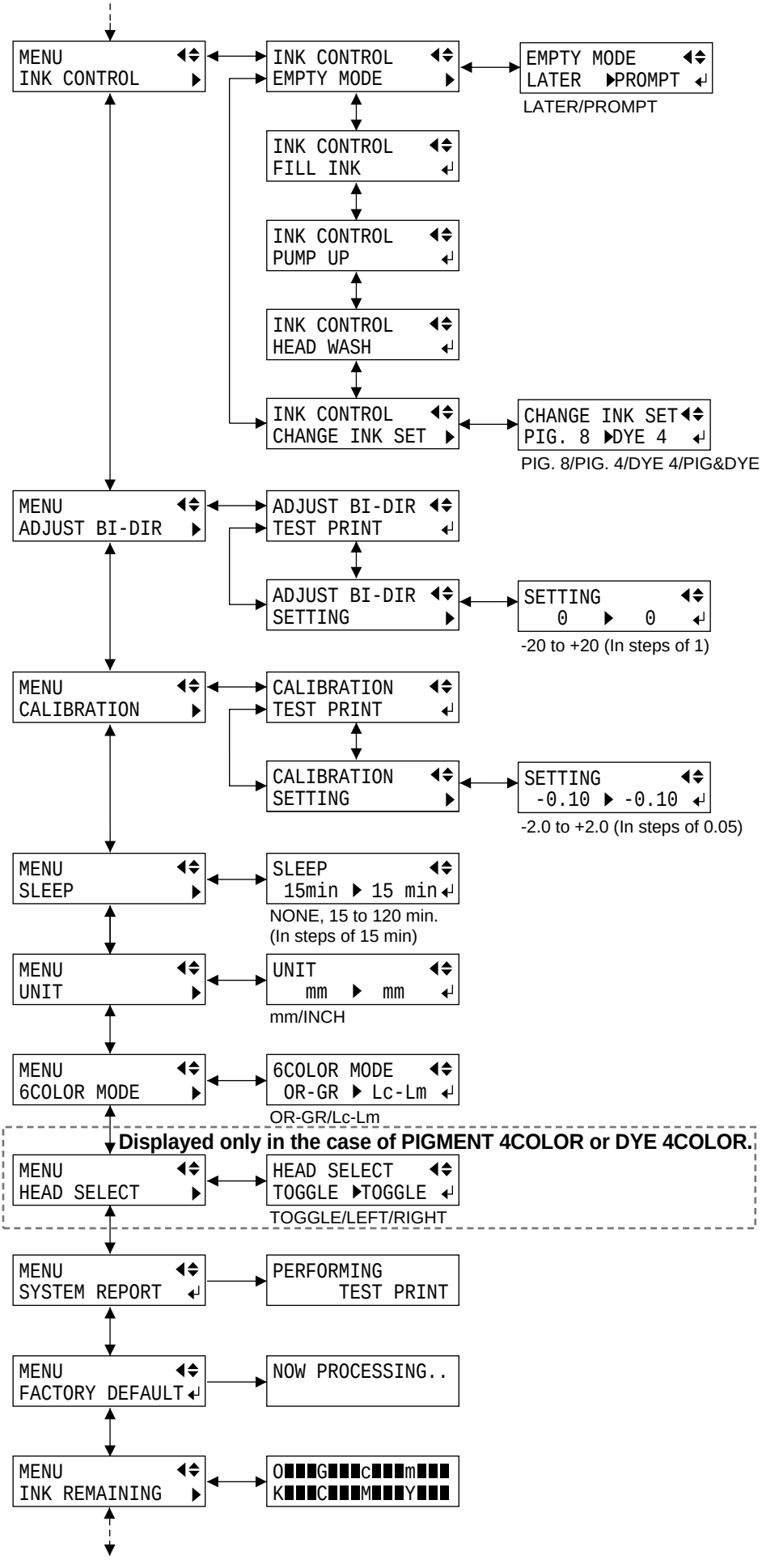
Use ▲ or ▼ to select.
Press the [ENTER] key to enable the setting.

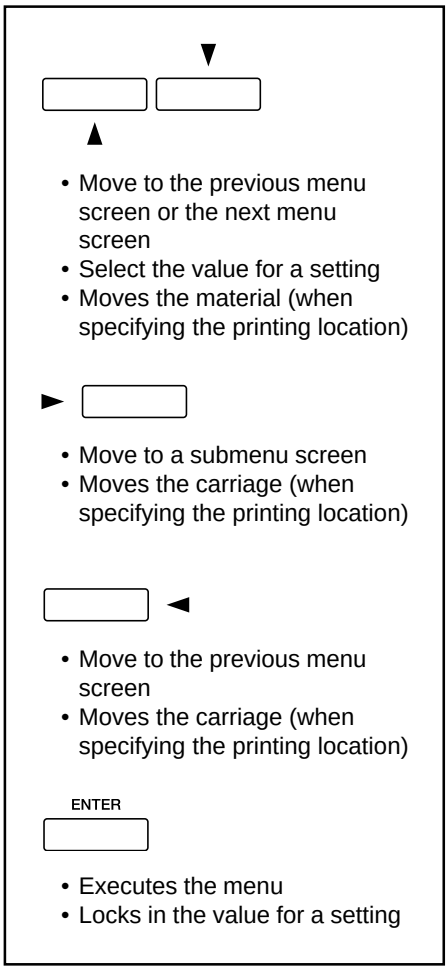




To the [INK CONTROL] menu

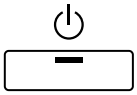
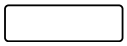
[HEAD CLEANING] menu




• Move to the previous menu screen or the next menu screen
• Select the value for a setting
• Moves the material (when specifying the printing location)
• Move to a submenu screen
• Moves the carriage (when specifying the printing location)
• Move to the previous menu screen
• Moves the carriage (when specifying the printing location)
ENTER
• Executes the menu
• Locks in the value for a setting

4-5 Description of Keys and Display Menus

Description of Keys

Key	Top menu	Submenu	Function	Setting range	Default value
	—	—	This switches on and off the sub power . When the power is switched on, the POWER LED lights up.	—	—
	—	—	This detects the presence and the width of the material, and displays the printable width. The SETUP LED flashes while detection of material width is in progress. When setup finishes, the SETUP LED lights up continuously. Also press this key when removing the material. Pressing this key when any of the various menu screens is displayed returns you to the top screen. (When this is done, material setup cannot be canceled.)	—	—
	—	—	The [PAUSE] key pauses printing. The PAUSE LED lights up while paused. Pressing this key again cancels the paused state. Holding down the [SETUP] key for about 1 second while paused causes remaining data to be cleared and cancels the material's setup state.	—	—
	—	—	This sets the print-start location in the horizontal direction (the direction of carriage movement). For more information, see "2-5 Printing -- Printing at the Desired Location -- Specifying a location in the left-right direction (the direction of carriage movement)."	—	—
	PRINT QUALITY	—	This displays the [PRINT QUALITY] menu for setting image quality. This is used to specify the printing quality and unidirectional or bidirectional printing. Settings cannot be made while printing is in progress. To exit the [PRINT QUALITY] menu screen, press the [MENU] key, the [CLEANING] key, or the [SETUP] key. When you can make the settings for the printing mode and printing direction on the computer, the computer's settings take priority. For more information, see "2-5 Printing -- Setting the Printing Mode."	[Printing quality] vPHOTO vSUPER vNORMAL SUPER NORMAL DRAFT [Printing direction] UNI-DIRECTION BI-DIRECTION	[Printing quality] NORMAL [Printing direction] BI-DIRECTION

Key	Top menu	Submenu	Function	Setting range	Default value
CLEANING	CLEANING	TESTPRINT BOTH HEADS LEFT HEAD RIGHT HEAD	This displays the [CLEANING] menu for cleaning of the printing head. Before starting to print, you can carry out a printing test to check the printing quality. You can perform cleaning while in any state. Note that [TEST PRINT] is not displayed while the printing is in progress. [TEST PRINT]: Performs a printing test. If there is a problem, then continue by carrying out cleaning. [BOTH HEADS]/[LEFT HEAD]/[RIGHT HEAD]: Begins cleaning of the printing heads. After cleaning, carry out a printing test to make sure there are no problems. For more information, see "2-4 Test Printing" and "3-3 Cleaning the Printing Heads."	—	—
SHEET CUT	—	—	This severs the material at the present position of the print-start line. Press this to separate the portion that has been printed from the roll. You cannot sever a piece of material while printing is in progress. For more information, see "2-6 Ending Printing Operations -- Separating the Printed Portion."	—	—
◄ ▲ ▼ ►	—	—	These move the material and the carriage. When a menu is displayed, these move among the menu items.	—	—
MENU	—	—	This enters the menu mode. When a menu is displayed, the [▲] and [▼] keys move to the next menu, the [►] moves to a submenu, and the [◄] key moves to the previous screen.	—	—
ENTER	—	—	This is used to accept, execute, or save the item shown on the display.	—	—
MENU + ⏻ −	LANGUAGE	—	This sets the language for screen messages. You can select either English or Japanese.	ENGLISH/ JAPANESE	ENGLISH

Description of Menus

Pressing the [MENU] key enters the menu mode.

Top menu	Submenu	Function	Setting range	Default value
SHEET TYPE	—	This is used to select either transparent or opaque material. Select [OPAQUE] when the material loaded on the unit is not transparent. When the material loaded on the unit is not transparent, select [OPAQUE]. When you are using transparent material or the printing area cannot be detected, select [CLEAR]. For more information, see "4-7 What to Do If... -- [SHEET SET ERROR SET AGAIN] appears andthe material cannot be detected even when the [SETUP] key is pressed."	OPAQUE/ CLEAR	OPAQUE
PRINT AREA	RIGHT EDGE LEFT EDGE	* This appears only when the material is in a loaded state. This sets the printing area in the left-right direction (the direction of carriage movement) of the loaded material. With transparent material, automatic detection of the material width is not performed. In such cases, use the [PRINT AREA] menu to specify the printing area in the left-right direction. Even when using opaque material, this can be specified when printing in a specific area. For more information, see "2-5 Printing -- Printing at the Desired Location Specifying a location in the left-right direction (the direction of carriage movement)."	—	—
HEAD HEIGHT		This sets the height of the printing heads. To make the setting, display this menu, then move the lever on the side of the unit's carriage. For more information, see "4-2 Adjusting the Height of the Printing Head."	HIGH/LOW	LOW
HEAD CLEANING	TEST PRINT BOTH MEDIUM LEFT MEDIUM RIGHT MEDIUM BOTH POWERFUL LEFT POWERFUL RIGHT POWERFUL	Before starting to print, you can carry out a printing test to check the printing quality. If the printing test shows a problem, clean the printing head. Because cleaning subjects the head to wear and consumes ink, it should only be performed when absolutely necessary. Performing cleaning from the Powerful menu in particular subjects the head to early wear and used up large amounts of ink. [TEST PRINT]: Performs a printing test. If a problem is found, then continue by carrying out cleaning. [BOTH MEDIUM]/[RIGHT MEDIUM]/[LEFT MEDIUM]: Performs cleaning of the printing heads. After cleaning, carry out a printing test to make sure there are no problems with printing quality. Normally, head cleaning should be performed by pressing the [CLEANING] key. [BOTH POWERFUL]/[RIGHT POWERFUL]/[LEFT POWERFUL]: Used when performing cleaning with Medium several times does not restore the printing quality. After cleaning, carry out a printing test to make sure there are no problems with printing quality. For more information, see "2-4 Test Printing" and "3-3 Cleaning the Printing Heads."	—	—

Top menu	Submenu	Function	Setting range	Default value
INK CONTROL	EMPTY MODE	[EMPTY MODE]: When replacement of the ink cartridge becomes necessary while printing is in progress, this setting determines whether printing continues or pauses. This setting is used when the ink cartridge cannot be changed immediately during printing, such as during unattended operation at night. [LATER] causes printing to continue without pause even if ink refilling becomes necessary. Printing continues with the small amount of ink remaining, so the printed image may become faint as the ink runs out. In general, it should possible to perform about 1 m^2 (10 ft^2) of printing once this message appears, although the actual varies widely according to the amount of ink needed for the particular image. Printing is continued only for the data currently being printed. Operation stops after one image is output. [PROMPT] causes operation to pause immediately when the ink cartridge needs to be changed. Printing is resumed by replacing the cartridge. Please note, however, that the colors of an image in progress may no longer be perfectly matched if the unit is allowed to remain paused for two or three hours before resuming printing.	[EMPTY MODE] LATER/ PROMPT [CHANGE INK SET] PIG. 8/ PIG. 4/ DYE 4/ PIG&DIE	[EMPTY MODE] PROMPT
	FILL INK	[FILL INK]: This fills the printing heads with ink. Normally there is no need to make this setting, because filling is automatic.		
	PUMP UP	[PUMP UP] : Drains ink from the printing heads.		
	HEAD WASH	[HEAD WASH] : This washes the printing heads with optionally available cleaning cartridges. For more information, see "3-8 When Moving the Unit... ."		
	CHANGE INK SET	[CHANGE INK SET] : Performs the [HEAD WASH] and [FILL INK] operations. This is used when switching the ink type. Before running this, choose the type of ink to be used after the change. For more information, see "3-4 Changing the Type of Ink."		
ADJUST BI-DIR	TEST PRINT	This adjusts for slippage when performing bidirectional printing. This must be readjusted when you have replaced the material with a different type or adjusted the head height. [TEST PRINT]: This menu is for verifying the adjustment.	[SETTING] -20 to +20 (In steps of 1)	0
	SETTING	[SETTING]: This sets the correction value. For more information, see "2-5 Printing -- Making Corrections for Printing -- Bidirectional Correction."		
CARIBRATION	TEST PRINT	This corrects for errors in the amount of feed of the grit rollers due the type of material. Be sure to make this setting when you have replaced the material with a different type. Make this setting again when horizontal stripes are plainly visible on printing results. [TEST PRINT]: This menu is for verifying the adjustment.	-2.0% to +2.0% (In steps of 0.05%)	0%
	SETTING	[SETTING]: This sets the correction value. When you can set the error for the amount of feed for the grit rollers on the computer, the computer's setting takes priority. For more information, see "2-5 Printing -- Making Corrections for Printing -- Feed Correction."		
SLEEP	—	This sets the time that elapses before the unit enters the SLEEP mode. The SLEEP mode is enabled when the FJ-600/500/400 has been inactive for a specified time. (When in the SLEEP mode, the POWER LED flashes once per second.) To release the SLEEP mode... - Touch any key on the control panel. - Send data from the computer (only when the SETUP LED is lit). - Open the front cover. - Move the sheet loading lever toward the back of the unit.	NONE/15 min to 120 min (In steps of 15 min)	15 min

Top menu	Submenu	Function	Setting range	Default value
UNIT	—	This selects millimeters or inches as the unit of measurement for the width displayed on the top menu after setting up the material. When inch display is used, values are displayed to the first digit to the right of the decimal point.	mm/INCH	mm
6COLOR MODE	—	Make this setting when you are using data for six-color printing. It has no effect on processing data for four-color or eight-color printing. The menu is for performing printing using six-color printing data for older Hi-Fi JET models from Roland DG Corp. When processing six-color printing data as KCMY + OrGr (black, cyan, magenta, and yellow plus orange and green, choose [OR-GR]. When processing the six-color printing data as KCMY + LcLm (black, cyan, magenta, and yellow plus light cyan and light magenta), choose [Lc-Lm]. * Performing printing using six-color data for an older model requires taking into account the differences in resolution and the amount of ink received, and adjusting the output profile appropriately. Note that the output results will not be exactly equivalent to those obtained with the older model. Also, if the FJ-600/500/400 is set to a printing mode that is not compatible with the older model, correct output results may not be obtained even when six-color printing data is sent. The only printing mode on the FJ-600/500/400 that is compatible with older models is NORMAL. [OR-GR]: In the six-color data, the two colors other than KCMY (black, cyan, magenta, and yellow) are processed as OrGr (orange and green). [Lc-Lm]: In the six-color data, the two colors other than KCMY (black, cyan, magenta, and yellow) are processed as LcLm (light cyan and light magenta).	OR-GR/ Lc-Lm	OR-GR
HEAD SELECT	—	* The installed ink type is displayed only in the case of [PIGMENT 4COLOR] or [DYE 4COLOR]. When the installed ink type is [PIGMENT 4COLOR] or [DYE 4COLOR] and the printing mode is [vNORMAL] or [vSUPER], printing using only the printing head on one side is performed in order to improve printing quality. At this time, select the printing head to use. When set to [TOGGLE], the printing head used alternates between the left and right each time the power is turned on. The ink on the left and right is consumed evenly. When you send the same data, differences between the printing heads on the left and right may produce variations in coloring before and after the power is reset. When set to [LEFT] or [RIGHT], printing always uses the left or right printing head. Because printing results are not affected by differences between the left and right printing heads, this is suitable for case when you are outputting the same data a number of times.	TOGGLE/ LEFT/ RIGHT	TOGGLE
SYSTEM REPORT	—	This prints the current status of settings and other system information.	—	—
FACTORY DEFAULT	—	This returns all menu settings to their original values when shipped from the factory. For more about the factory defaults for the various settings, see the "Default value" entry for each menu setting in this section.	—	—
INK REMAINING	—	This shows the amount of ink left after each of the ink cartridges has been installed. The fewer the markers (" ▮ "), the less ink is left. * If a partially used ink cartridge is removed and reinstalled, or if a partially used ink cartridge is installed, the cartridge is taken to be unused, and the displayed amount of remaining ink is not true. For more information, see "3-2 Checking the Remaining Ink Level."	—	—

4-6 Network Connection

The FJ-600/500/400 has a built-in print server (Roland-PrintServer) as a network interface. You can connect the print server to a 10Base-T or 100Base-TX network.
When you use the print server, you can send printing data to the FJ-600/500/400 from anywhere on the network.

In order to send printing data from the included Roland COLORCHOICE® (software raster image processor) through the network to the FJ-600/500/400, you need to make the setting for the IP address in the print server.

This section describes how to make the setting for the IP address in the print server.
For detailed information about the print server and network connections, see the "Roland-PrintServer Installation Manual" (PDF file) and the "Roland-PrintServer User Manual" (PDF file) on the included Roland-PrintServer CD-ROM.
"Software Quick Installation," which appears in the "Roland-PrintServer User Manual" (PDF file), is not included with the FJ-600/500/400.

How to View the Manuals (PDF Files)

The included Roland-PrintServer CD-ROM contains the following PDF files.
To read the following files on the CD-ROM, open them directly from the CD-ROM, or copy them to your hard disk first.

- Roland-PrintServer Installation Manual

This contains an explanation of TCP/IP, describes how to install and set up the print server in a Windows-based environment, and so on.

Location

[Manual] - [English] - [Installation.pdf]

- Roland-PrintServer User Manual

This describes the settings and features of the print server.

Location

[Manual] - [English] - [User.pdf]

Installing and Setting Up Acrobat Reader

Acrobat Reader is required to view PDF files.
Install Acrobat Reader if it is not already installed on your computer.
The included Roland-PrintServer CD-ROM contains Acrobat Reader. Its location is as shown below.

For Windows

Location

[Acrobat] - [English] - [ar302.exe]
(This runs under Windows 95, Windows 98, or Windows NT 4.0 .)

For Macintosh

Location

[Acrobat] - [English] - [Reader 3.02 Installer]
(This runs under Mac OS 7.0 or higher.)

Setup

1 Confirm the IP addresses of the computer and the print server.

For a TCP/IP network that is already configured

Consult your network administrator.

For a TCP/IP network that is completely unconfigured

* The explanations in this section assume that there is not connection to another network.

Decide on the IP address of the computer sending data directly to the FJ-600/500/400 (Windows 98/95, Windows NT 4.0, or Macintosh) and the IP address of the print server.

For Windows

IP Address: 192.168.0.XXX

Subnet Mask: 255.255.255.0

Default Gateway: Leave it blank

For Macintosh

IP Address: 192.168.0.XXX

Subnet mask: 255.255.255.0

Router address: Leave it blank

Name server addr.: Leave it blank

Search domains: Leave it blank

* Decide on a value (any value) of from 1 to 254 for the "XXX" portion of each of the IP addresses. Each of these values must be unique -- that is, not duplicated for any of the computers or print servers.
  For instance, you may decide on an IP address of 192.168.0.100 for the computer sending data and an address of 192.168.0.123 for the print server. The explanations in this section use these IP addresses.

2 Install TCP/IP on the computer and set the IP address.

Settings for Windows 98/95

The following procedure describes how to enable the TCP/IP protocol and set the IP address on the computer.

1) Quit all running programs.
2) From the [Start] menu, point to [Settings] and choose [Control Panel].
3) Double-click the [Network] icon.
4) Choose the [Configuration] tab.
5) Click [Add].
6) Choose [Protocol].
7) Click [Add].
8) In the [Manufacturers] box, choose [Microsoft].
9) In the [Network Protocols] box, choose [TCP/IP].
10) Click [OK] to enable the TCP/IP protocol.
11) At the [Configuration] tab, from the displayed list, choose [TCP/IP].
12) Click [Properties].
13) Choose the [IP Address] tab.
14) Activate the selection for [Specify an IP address].
15) In [IP Address], enter the IP address for the computer that you decided on in "1 Confirm the IP addresses of the computer and the print server." Here, enter 192.168.000.100 as an example.
16) Enter the [Subnet Mask]. Here, enter 255.255.255.000 as an example.
17) Click [OK].
18) In the [Network] window, click [OK].
19) When you are asked whether to restart the computer, click [Yes] to restart.

This completes the setup of TCP/IP in Windows 98/95 and the settings for the IP address.

Settings for Windows NT 4.0

The following procedure describes how to set the IP address for the computer. TCP/IP is enabled by default.

1) From the [Start] menu, point to [Settings] and choose [Control Panel].
2) Double-click the [Network] icon.
3) Choose the [Protocols] tab.
4) In the [Network Protocols] box, choose [TCP/IP Protocol].
5) Click [Properties].
6) Choose the [IP Address] tab.
7) Activate the setting for [Specify an IP address].
8) In [IP Address], enter the IP address for the computer that you decided on in "1 Confirm the IP addresses of the computer and the print server." Here, enter 192.168.000.100 as an example.
9) Enter the [Subnet Mask]. Here, enter 255.255.255.000 as an example.
10) Click [OK].
11) In the [Network] window, click [OK].

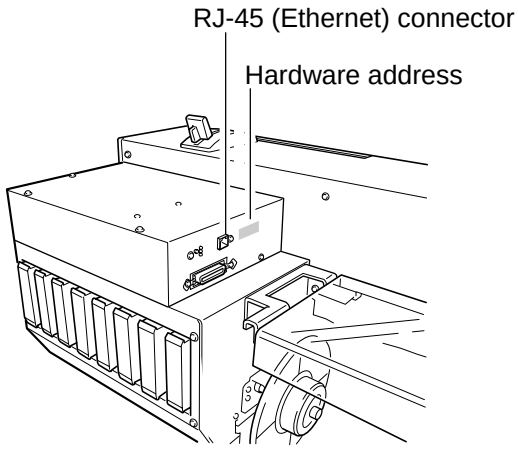
This completes the setting of the IP address for Windows NT 4.0.

Settings for Macintosh

In the included "Roland-PrintServer for Macintosh Users," follow the instructions in "TCP/IP Settings on the Macintosh" and make the settings.

3 Verify the hardware address for the print server.

The print server's hardware address is required to set the IP address for the print server.
Check the label affixed to the FJ-600/500/400 and verify the hardware address.
The explanations in this section use 00C0EB0001FF as the print server's hardware address.



4 Set the IP address for the print server.

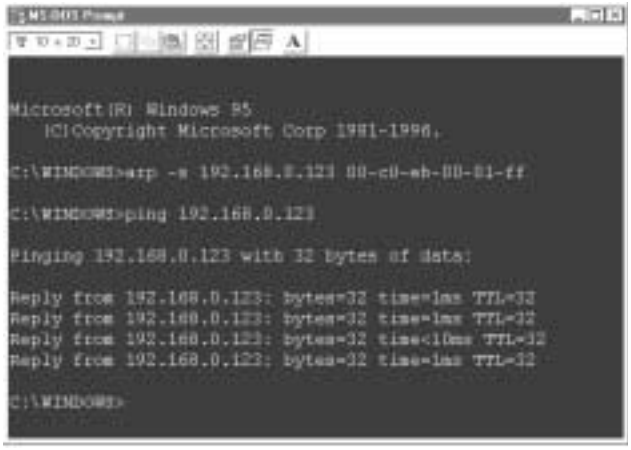
Settings for Windows 98/95

The following procedure describes how to set the IP address for the print server.

1) From the [Start] menu, point to [Programs] and choose [MS-DOS Prompt].

2) Run this: arp -s <IP address> <hardware address>
For the IP address, specify the IP address for the print server you decided on in "1 Confirm the IP addresses of the computer and the print server."
For the hardware address, specify the hardware address for the print server you verified in "3 Verify the hardware address for the print server."
Here, enter arp -s 192.168.0.123 00-c0-eb-00-01-ff as an example, then press the [ENTER] key.

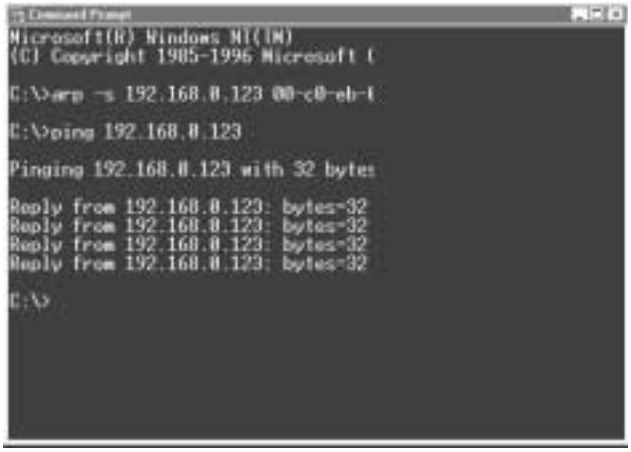
3) Run this: ping <IP address>
For the IP address, specify the IP address for the print server you decided on in "1 Confirm the IP addresses of the computer and the print server."
Here, enter ping 192.168.0.123 as an example, then press the [ENTER] key.



This completes the setting of the IP address for the print server.

Settings for Windows NT 4.0

The following procedure describes how to set the IP address for the print server.



1) From the [Start] menu, point to [Programs] and choose [Command Prompt].

2) Run this: arp -s <IP address> <hardware address>
For the IP address, specify the IP address for the print server you decided on in "1 Confirm the IP addresses of the computer and the print server."
For the hardware address, specify the hardware address for the print server you verified in "3 Verify the hardware address for the print server."
Here, enter arp -s 192.168.0.123 00-c0-eb-00-01-ff as an example, then press the [ENTER] key.

3) Run this: ping <IP address>
For the IP address, specify the IP address for the print server you decided on in "1 Confirm the IP addresses of the computer and the print server."
Here, enter ping 192.168.0.123 as an example, then press the [ENTER] key.

This completes the setting of the IP address for the print server.

Settings for Macintosh

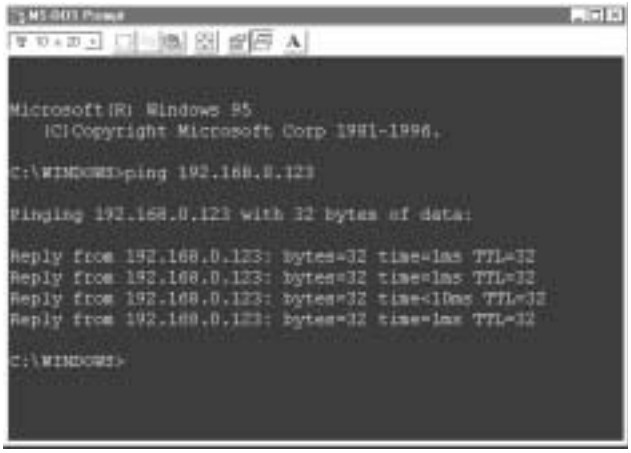
In the included "Roland-PrintServer for Macintosh Users," follow the instructions in "Setting the IP Address for the Print Server and Verifying the Network Connection" and make the settings.

* Output to the FJ-600/500/400 is made via Roland COLORCHOICE®. The output destination for use in a network environment is made with Roland COLORCHOICE®.

5 Check the response from the print server.

For Windows 98/95

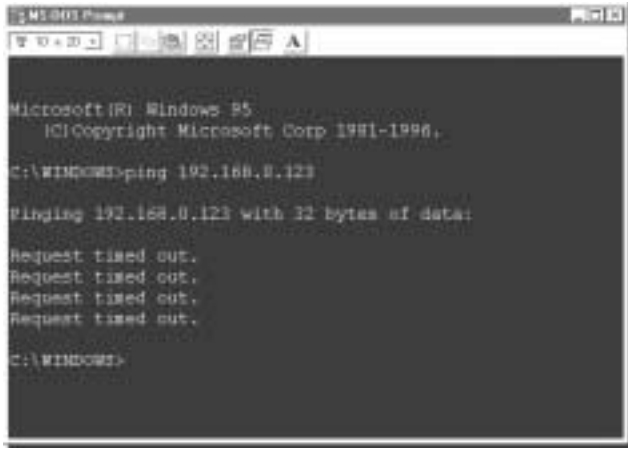
Click [Start].
Point to [Programs], then click [MS-DOS Prompt].
Run [ping <IP address>].
When the print server responds correctly, the results are like those shown in the figure.



When the print server does not respond correctly, the results are like those shown in the figure.
Investigate and eliminate the cause, so that the correct response is obtained.

If there is no response from the print server and the results are as shown in the figure, one of the following may be the cause.

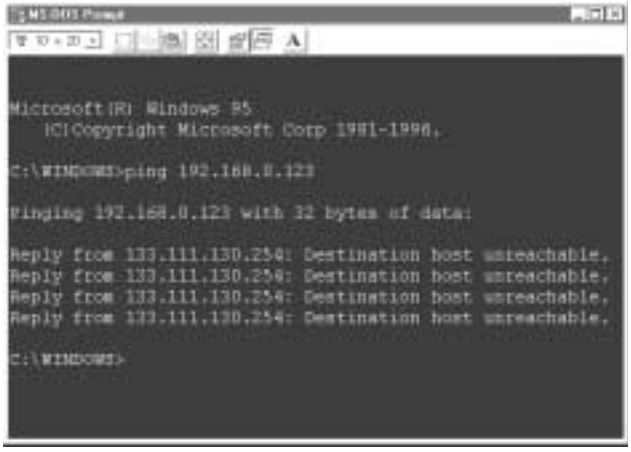
- The printer is not turned on.
- The network device is not turned on.
- The network cables are not connected correctly.
- The IP address was entered incorrectly.



If an error message is returned from the gateway and the results are like those at right, one of the following may be the cause.

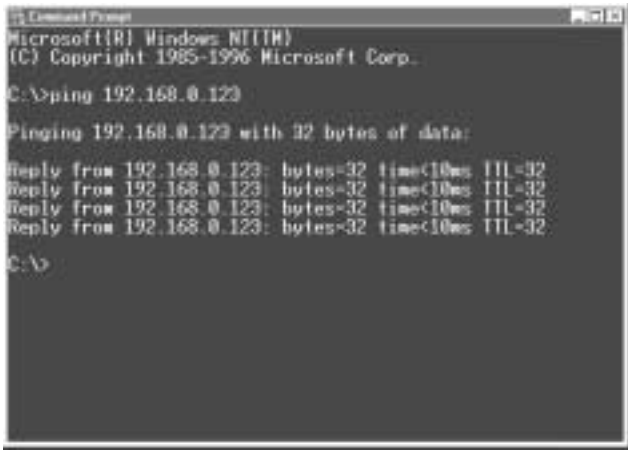
- The IP address was entered incorrectly.
- The settings for the gateway are not correct.

Aside from these, the information displayed may change, depending on the error.



For Windows NT 4.0

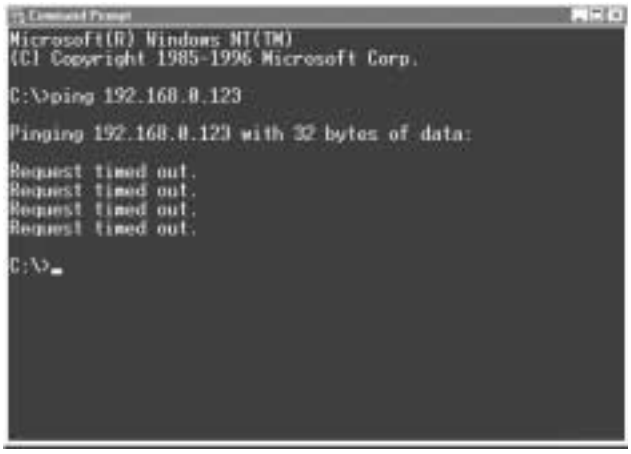
Click [Start].
Point to [Programs], then click [Command Prompt].
Run [ping <IP address>].
When the print server responds correctly, the results are like those shown in the figure.


Microsoft(R) Windows NT(TM)
(C) Copyright 1985-1996 Microsoft Corp.
C:\>ping 192.168.0.123
Pinging 192.168.0.123 with 32 bytes of data:
Reply from 192.168.0.123: bytes=32 time<10ms TTL=32
Reply from 192.168.0.123: bytes=32 time<10ms TTL=32
Reply from 192.168.0.123: bytes=32 time<10ms TTL=32
Reply from 192.168.0.123: bytes=32 time<10ms TTL=32
C:\>

When the print server does not respond correctly, the results are like those shown in the figure.
Investigate and eliminate the cause, so that the correct response is obtained.

If there is no response from the print server and the results are as shown in the figure, one of the following may be the cause.

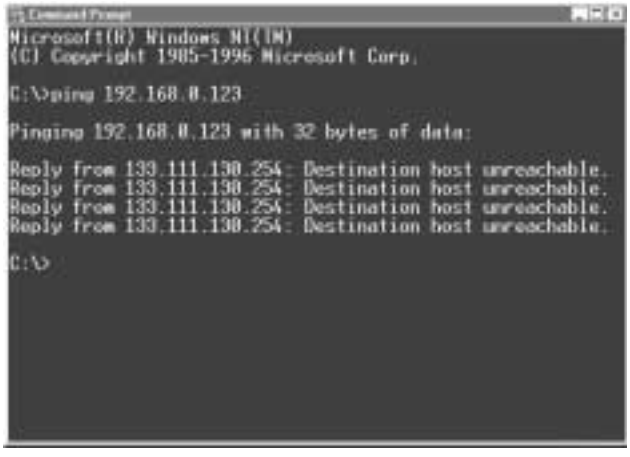
- The printer is not turned on.
- The network device is not turned on.
- The network cables are not connected correctly.
- The IP address was entered incorrectly.



If an error message is returned from the gateway and the results are like those at right, one of the following may be the cause.

- The IP address was entered incorrectly.
- The settings for the gateway are not correct.

Aside from these, the information displayed may change, depending on the error.


Microsoft(R) Windows NT(TM)
(C) Copyright 1985-1996 Microsoft Corp.
C:\>ping 192.168.0.123
Pinging 192.168.0.123 with 32 bytes of data:
Reply from 133.111.130.254: Destination host unreachable.
Reply from 133.111.130.254: Destination host unreachable.
Reply from 133.111.130.254: Destination host unreachable.
Reply from 133.111.130.254: Destination host unreachable.
C:\>

For Macintosh

In the included "Roland-PrintServer for Macintosh Users," follow the instructions in "Setting the IP Address for the Print Server and Verifying the Network Connection" and verify the settings.

4-7 What to Do If...

What to Do If...

If the FJ-600/500/400 doesn't run...

Is the power cord connected correctly?

Connect the power cord included with the FJ-600/500/400 to the unit, and plug the other end securely into an electrical outlet. (See “1-2 Making the Connections” .)

Is the FJ-600/500/400 power on?

Turn on the power. (See “2-2 Powerup” .)

Has material been loaded (the SETUP LED is lit)?

If the SETUP LED is not illuminated, make sure the material is loaded correctly and press the [SETUP] key to illuminate the SETUP LED.

Is the PAUSE LED illuminated?

If the [PAUSE] key has been pressed and the PAUSE LED is lighted, the unit has been paused.
To resume printing, press the [PAUSE] key again. The PAUSE LED is extinguished, and printing resumes.
To terminate printing, first stop the transmission of printing instructions from the computer to the FJ-600/500/400. Then press the [SETUP] key. Hold down for about 1 second. This deletes the printing instructions that have already been sent from the computer to the FJ-600/500/400, and printing is stopped.

Is the top menu displayed?

If the top menu isn't displayed, printing doesn't start even when data is sent from the computer.

Top menu

```
W 1234 mm
NORMAL   BI-DIR
```

Conditions for starting printing

The material must be already set up (with the SETUP LED lighted),
and the display must show the top menu.

If another menu screen is displayed, press the [SETUP] key to go back to the top menu.
(Pressing the [SETUP] key when another menu screen is displayed does not cancel the set-up for the material.)

Are the computer and the FJ-600/500/400 linked with the right cable ?

The type of cable you need is determined by your computer. One which you are sure matches the model of computer being used should be select.

Is the cable making a secure connection?

Connect securely. (See “1-2 Making the Connections” .)

Has the correct driver selection been made for the application software?

Select the appropriate FJ-600/500/400 driver.

Verify the response from the print server (Roland-PrintServer).
For more information about how to verify this, see below.

For Windows

"4-6 Network Connection Setup 5) Check the response from the print server."

For Macintosh

In the included "Roland-PrintServer for Macintosh Users," follow the instructions in "Setting the IP Address for the Print Server and Verifying the Network Connection."

When there is a response from the print server

The network connection is correct. Check the following.

- The Roland COLORCHOICE® setting for the output destination

When there is no response from the print server

Check for a response from another computer connected to the network.
If checking from the other computer shows a response from the print server, check the computer that did not receive a response.
One of the following may be the cause.
Investigate and eliminate the cause, so that the correct response is obtained.

- The network cables are not connected correctly.
- The computer's TCP/IP setting is incorrect. (When checking the TCP/IP settings, refer to "Verifying the Computer's TCP/IP Settings.")

There is no response from the print server at any computer

One of the following may be the cause.
Investigate and eliminate the cause, so that the correct response is obtained.

- The FJ-600/500/400 is not turned on.
- The network device is not turned on.
- The power cord is not connected correctly.
- The network cables are not connected correctly.
- The network cable is suffering from a broken wire or faulty contact.
  If the network cable is suffering from a broken wire or faulty contact, replace it with a new network cable. If you are using a 100Base TX Ethernet network, use Category 5 cable.
- The computer's TCP/IP setting is incorrect. (When checking the TCP/IP settings, refer to "Verifying the Computer's TCP/IP Settings.")

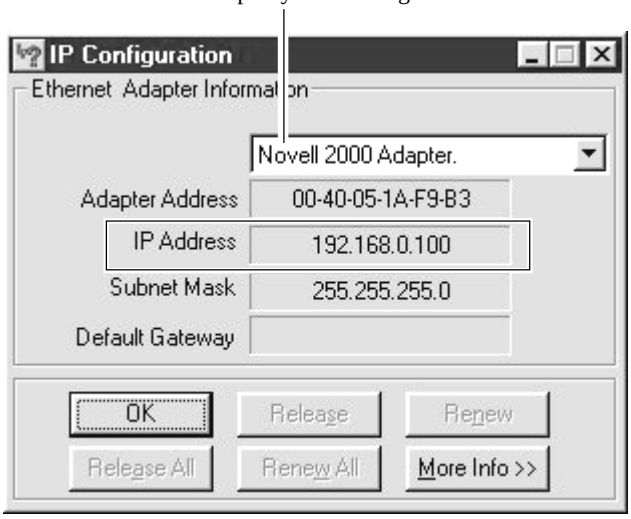
Verifying the Computer's TCP/IP Settings

Make sure there is no error in the computer's settings.

For Windows 98/95

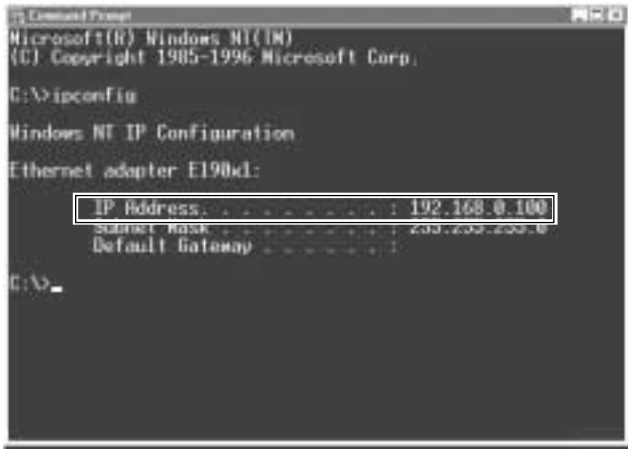
Click [Start].
Point to [Programs], then click [MS-DOS Prompt] and run [winipcfg.exe].

Choose the Ethernet adapter you are using.



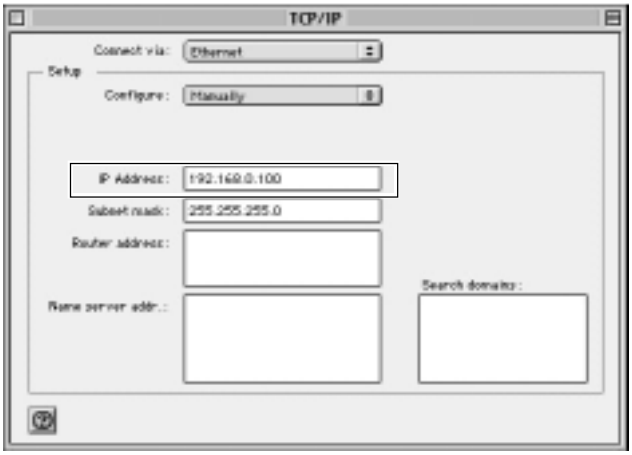
For Windows NT 4.0

Click [Start].
Point to [Programs], then click [Command Prompt] and run [ipconfig.exe].


Microsoft(R) Windows NT(TM)
(C) Copyright 1985-1996 Microsoft Corp.
C:\>ipconfig
Windows NT IP Configuration
Ethernet adapter E190x1:
IP Address. . . . . : 192.168.0.100
Default Gateway . . . . . :
C:\>

For Macintosh

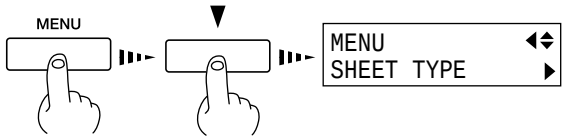
From the [Apple] menu, choose [Control Panels], then click [TCP/IP].



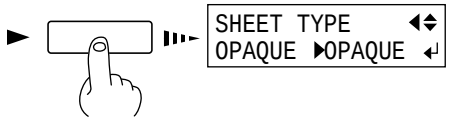
[SHEET SET ERROR SET AGAIN] appears and the material cannot be detected even when the [SETUP] key is pressed

If the material loaded on the unit is transparent, then at the [SHEET TYPE] menu, select [CLEAR].

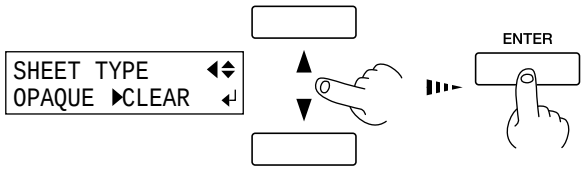
1 Press the [MENU] key and [▼] key to make the following screen appear on the display.



2 Press the [►] key to make the following screen appear on the display.



3 Use the [▲] and [▼] key to select [CLEAR], then press the [ENTER] key.



4 Specify a printing area for the left-right direction (the direction of carriage movement) that matches the width of the material. For more information, see " 2-5 Printing -- Printing at the Desired Location -- Setting the printing area in the left-right direction (the direction of carriage movement)."

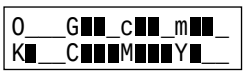
- When the setting for [SHEET TYPE] is changed after setup for the material has been performed, the setup for the material is automatically canceled. If this happens, set up the material again.
- When using opaque material, return the [SHEET TYPE] setting to [OPAQUE].

When [SHEET TYPE] is set to [CLEAR], the material width is not detected during material setup. This means it is necessary to specify a printing area that matches the actual width of the material.
When only set to [CLEAR], the width of the printing area is set as follows.

- FJ-600
  1605 mm (63-3/16 in.) : The printing-area default for material having a width of 64 in., which is the maximum loadable material width
- FJ-500
  1351 mm (53-3/16 in.) : The printing-area default for material having a width of 54 in., which is the maximum loadable material width
- FJ-400
  1097 mm (43-3/16 in.) : The printing-area default for material having a width of 44 in., which is the maximum loadable material width

The out-of-ink screen appeared during material setup.

A cartridge has run out of ink, and printing cannot be started.
If printing data is being sent, this message is displayed and the buzzer sounds. At the same time, operation is paused. Replace the empty cartridge with a new one to start printing.



Clean, attractive printing is impossible

If drop-out occurs with printed images.

Clean the printing heads (see "3-3 Cleaning the Printing Heads").

Is the surface of the platen dirty or scratched?

Clean the platen (see “3-7 Cleaning”).

Is the material dirty?

Remove superficial soiling, then load the material.

Is the material damaged?

Clean, attractive printing is not possible if the material is damaged or warped.
Use care to keep materials from being damaged while in storage.

During printing, was the front cover opened (executing an emergency stop) or the [PAUSE] key pressed?

If operation is stopped or paused while printing is in progress, the quality of the image before and after the interruption may differ. It is a good idea to avoid pausing operation while printing is in progress whenever possible.

Is thick material in use, or does the surface of the material rub against the printing heads?

If material feed is not smooth because the material catches on the head, then adjust the height of the printing heads (see "4-2 Adjusting the Height of the Printing Head").
When the height of the printing head has been adjusted, it is necessary to perform bidirectional correction (only when the printing direction for [PRINT QUALITY] has been set to [BI-DIRECTION]). For more information about bidirectional correction, see "2-5 Printing - Making Corrections for Printing - Bidirectional Correction."
If you are using material that becomes uneven when printed, then perform unidirectional printing. With unidirectional printing, unevenness is less conspicuous than bidirectional printing.
Also, if the printing heads scrape the material even when the heads are raised, then do not use that material.
Doing so may not only cause paper jams, but may soil the material (the printing surface) and impair printing accuracy.

If the type of material was changed, was feed correction performed?

Correcting the amount of feed improves the dot-positioning accuracy in the feed direction, which can help enhance image quality.
If the type of material was changed, refer to "2-5 Printing - Making Corrections for Printing - Feed Correction" and perform correction for feed.

During printing, ink drips from the carriage and soils the material (the printing surface).

The following may cause ink to drip on the material during printing.
- Dust or fiber-containing grime around the heads may have absorbed ink.
- The heads scraping the material may have caused ink to fail to be discharged, resulting in ink buildup in the heads.

If this happens, refer to "3-3 Cleaning the Printing Heads -- Using the Cleaning Kit to Clean the Printing Heads" and clean the heads.
We recommend carrying out periodic head cleaning.
Also, before you start printing, perform a printing test to make sure there is no dot drop-out.

Printing goes beyond the loaded material

Is [SHEET TYPE] set to [CLEAR]?

When [SHEET TYPE] has been set to [CLEAR], no detection of the material width is performed when material is loaded (printable width set to maximum).
If transparent material has been loaded, specify a printing area that matches the actual material width (see "2-5 Printing -- Printing at the Desired Location -- Setting the printing area in the left-right direction (the direction of carriage movement)").
If opaque material has been loaded, set [SHEET TYPE] to [OPAQUE].

Is the reflective tape dirty?

If the reflective tape becomes soiled, the width of the material cannot be detected correctly.
If the tape becomes dirty, wipe gently with a cloth moistened with water or ethyl alcohol.

Has the material been loaded at an angle?

If the loaded material is not straight, it may extend outside the printing area.
Refer to "2-3 Loading the Material" and load the material correctly.

Has the printing area been set to fill the material entirely?

When setting the printing area in the left-right direction (the direction of carriage movement) at the [PRINT AREA] menu, leave a margin on either side. If the printing area is set to extend all the way to the left right and right edges, a small amount of misalignment may result in printing beyond the edge of the material.

Material feed is not smooth (slippage occurs)

Is thick material being used?

If the surface of the material rubs against the printing heads and smooth feed is impossible, then adjust the height of the printing heads (see "4-2 Adjusting the Height of the Printing Head").
When the height of the printing head has been adjusted, it is necessary to perform bidirectional correction (only when the printing direction for [PRINT QUALITY] has been set to [BI-DIRECTION]). For more information about bidirectional correction, see "2-5 Printing - Making Corrections for Printing - Bidirectional Correction."

If using sheet material, does the loaded material contact areas such as the stand's media flange?

If the sheet material contacts the media flange or the like at the back of the unit, shift the retainer to a location where the material doesn't make contact.
If the material touches an obstruction while printing is in progress, normal material feed is not performed, and image quality may suffer or the material may jam.

Is the sheet material loaded at an angle? Are the left and right edges of the material not straight?

If the material is loaded at an angle or if the left and right sides of the material are not cut straight, the location of the edges may shift as feed is carried out. This may cause the material to rub against the inner side of the FJ-600/500/400 or be displaced from the printing area.

Is the roll material loaded correctly?

If the roll material is not loaded correctly, the material may come loose or advance at an angle. Refer to "2-3 Loading the Material Loading Roll Material" and load the material correctly.

The material becomes jammed

If [MOTOR ERROR : TURN OFF POWER] appears and operation stops

1) Press the [POWER] key to switch off the sub power.
2) Remove the jammed material. Cut off any creased or torn portions.
3) Press the [POWER] key to turn on the sub power.
4) Correct whatever caused the material to jam.
   (For example, if thick material has been loaded, then adjust the height of the printing heads.)
5) Load the material and carry out setup.
6) Press the [CLEANING] key to perform head cleaning and a printing test (see "3-3 Cleaning the Printing Heads").
7) Send the printing data and perform printing.

* Jammed material may damage or soil the printing heads. Be sure to perform head cleaning first before sending the printing data.

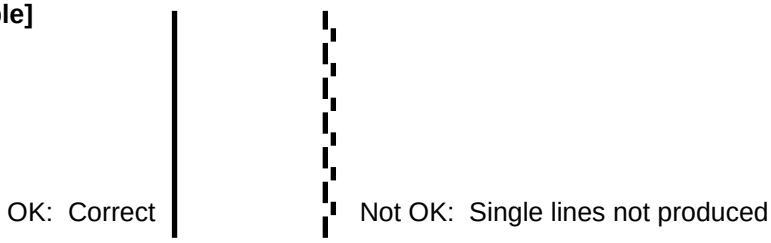
When printing was continued, but should be started over

1) Press the [PAUSE] key to pause operation.
2) Stop sending data from the computer.
3) Press the [SETUP] key. Hold down for about 1 second (making the SETUP LED go dark).
4) Press the [POWER] key to switch off the sub power.
5) Remove the jammed material. Cut off any creased or torn portions.
6) Press the [POWER] key to turn on the sub power.
7) Correct whatever caused the material to jam.
   (For example, if thick material has been loaded, then adjust the height of the printing heads.)
8) Load the material and carry out setup.
9) Press the [CLEANING] key to perform head cleaning and a printing test (see "3-3 Cleaning the Printing Heads").
10) Send the printing data and perform printing.

* Jammed material may damage or soil the printing heads. Be sure to perform head cleaning first before sending the printing data.

Printed lines are misaligned

[Example]



If misalignment like in the example occurs when the printing direction for [PRINT QUALITY] has been set to [BI-DIRECTION] (bidirectional), then carry out correction at the [BIDIRECTION] menu (see "2-5 Printing - Making Corrections for Printing - Bidirectional Correction").
Be sure to make this setting when you have replaced the material with a different type, or if you have adjusted the head height and printing is misaligned.

The material cannot be separated

Is a blade installed in the separating knife?

If no blade is installed, then install one (see "3-6 How to Replace the Separating Knife").

Is the blade dull or broken?

If the blade has become dull or broken, replace it with the replacement blade included with the unit (see "3-6 How to Replace the Separating Knife").

* Some materials cannot be separated due to their composition.

The material cannot be separated automatically

Has the material-cutting command been set to "enable" with the driver?

When the material-cutting command has not been set to "enable" with the driver, automatic separation of the material is not performed.

The printing length is not accurate

Did you correct the amount of feed for the grit rollers?

To correct the amount of feed for the grit rollers, refer to "2-5 Printing Making Corrections for Printing Feed Correction" and make the correction to match the material you're using.

To Return the Print Server (Roland-PrintServer) to Its Factory Defaults

At times such as when you have lost track of the print server's IP address, return the print server's settings to their default values and make the settings again.

1) At the control panel, press the [POWER] key to switch off the sub power.
2) Turn off the main power switch.
3) In the "Roland-PrintServer User Manual," follow the steps in "A.2.2. Functions of the Button."

Internet access is possible, but the print server's web page cannot be accessed

The print server's web page is located in the FJ-600/500/400's internal print server. This means that a proxy server is not used to view the print server's web page.
In your Internet browser, enter the IP address of the print server in the address to use when you are not using a proxy server.
For information about proxy settings, refer to the documentation for the browser you're using.

For Internet Explorer 5 (Windows version)

1) From the [Tools] menu, choose [Internet Options]. The [Internet Options] dialog box appears.
2) Display the [Connections] tab.
3) Click [LAN Settings].
   The [Local Area Network (LAN) Settings] dialog box appears.
4) For [Proxy server], select [Use a proxy server] to activate the setting, then click [Advanced]. The [Proxy Settings] dialog box appears.
5) At [Exceptions], enter the IP address of the print server.

The print server's IP address

For Netscape Communicator 4 (Windows version)

1) From the [Edit] menu, choose [Preferences]. The [Preferences] dialog box appears.
2) At [Category], under [Advanced], choose [Proxies].
3) Select [Manual Proxy Configuration] to activate it, then click [View]. The [Manual Proxy Configuration] dialog box appears.
4) At [Exceptions], enter the IP address of the print server.

The print server's IP address

Messages

Messages	Meaning	Action
CLOSE THE COVER	An operation command was given while the cover is open.	Close the cover.
SHEET NOT LOADED PRESS SETUP KEY	Test printing was attempted with no material loaded.	Load the material and try again. Press the [ENTER] key to continue.
O___ G■■_c■■_m■■_ K■__C___ M■■■Y■__	Ink has been used up. * The message at left indicates that the orange ink has been used up.	Replace the empty ink cartridge.
SET CARTRIDGE [OGcmKCMY] *	An ink cartridge was removed. A request to insert an ink cartridge was made from the FJ-600/500/400.	Insert the specified ink cartridge.
REMOVE CARTRIDGE [OGcmKCMY] *	A request to remove an ink cartridge was made from the FJ-600/500/400.	Take out the specified ink cartridge.
SET CLEANING LIQUID [OGcmKCMY] *	A request to insert a cleaning cartridge was made from the FJ-600/500/400.	Insert the specified cleaning cartridge.
REMOVE CLEANING LIQUID [OGcmKCMY] *	A request to remove a cleaning cartridge was made from the FJ-600/500/400.	Take out the specified cleaning cartridge.
EMPTY DRAIN INK	Check that the drain bottle is set in position when filling ink. * This message appears before operations that will discharge large amounts of ink. There is a chance of discharged ink overflowing if operations are carried out while the drain bottle is full. As a guide, you should discard discharged ink when the bottle is about half-full.	Remove the drain bottle from the FJ-600/500/400, discard the collected ink, then reinstall the drain bottle. Press the [ENTER] key to continue.
INSTALL DRAIN TANK	Check that the drain bottle is set in position when filling ink.	Set the drain bottle in place. Press the [ENTER] key to continue.
TO CANCEL, HOLD DOWN SETUP KEY	Operation was paused by pressing the [PAUSE] key, but there is still some remaining data.	Pressing the [PAUSE] key again to resume operation. Press the [SETUP] key to clear the data.
DRY-UP OF HEAD MAY GIVE DAMAGE	Emergency stop was effected. * "CLOSE THE COVER" is also displayed repeatedly. Audible alert each 10 sec. After 1 min., audible alert goes continuously.	Close the cover. * When restarting print, such detect like raster line or shift of band may happen.

* [OGcmKCMY] indicates the ink colors (when four colors are used, this is [KCMYKCMY]).
The character indicating the color of the ink-cartridge port flashes when action is necessary.

O = Orange, G = Green, c = Light Cyan, m = Light Magenta, K = Black, C = Cyan, M = Magenta, Y = Yellow

[Example]

If "OGcm" is flashing:
Install the Orange, Green, Light Cyan, and Light Magenta ink cartridges.

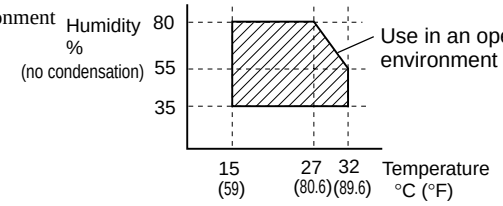
Messages	Meaning	Action
MOTOR ERROR TURN OFF POWER	A motor error occurred.	Recovery from this problem is impossible. Use the POWER key to switch the power off and back on again. After rectifying the cause of the error (a material jam or the like), switch on the power. Do not leave the unit with the carriage not in standby position.
TEMPERATURE IS TOO LOW	The air temperature where installed is lower than the ambient temperature at which the unit can operate (approx. 5°C (41°F) or more lower).	Recovery from this problem is impossible. Use the [POWER] key to switch the power off. First raise the temperature of the area where installed, then switch on the power.
SHEET SET ERROR SET AGAIN	The [SETUP] key was pressed even though no material is loaded. Setup was performed with no material at the correct location.	Load material at the correct location and press the [SETUP] key again (see "2-3 Loading the Material").
	[Sheet Type] is set to [OPAQUE], but transparent material was loaded.	When using transparent material, set [SHEET TYPE] to [CLEAR] (see "4-7 What to Do If...").
	An attempt was made to load material that is too small.	Replace with material of loadable size.
	The reflective tape is dirty.	Wipe off the grime on the reflective tape, then perform setup again.
PINCHROLL ERROR LOWER PINCHROLL	The [SETUP] key was pressed with the pinch rollers up. The pinch rollers were raised during setup.	Move the sheet loading levers toward "LOAD" and lower the pinch rollers, then press the [SETUP] key (see "2-3 Loading the Material").
AVOIDING DRY-UP TURN OFF POWER	The printing head was returned to its standby position to be capped, canceling current printing job. Because emergency stop was effected more than 10 min.	Turn power off by pressing [POWER] key to reset. Interrupted printing is not resumed. Repeat printing from the beginning.
CANCELED FOR PROTECTING MOTOR	Continuous operation caused the pump motor to become hot, so operation was paused to prevent damage to the motor.	Press any key to cancel the message. Allow the unit to stand for about 30 minutes, then resume operation.

4-8 Specifications

		FJ-600	FJ-500	FJ-400
Printing method		Piezo ink-jet method		
Printing width		210 to 1615 mm (8-5/16 to 63-9/16 in.)	210 to 1361 mm (8-5/16 to 53-9/16 in.)	210 to 1107 mm (8-5/16 to 43-9/16 in.)
Acceptable material widths		210 to 1625 mm (8-5/16 to 64 in.)	210 to 1371 mm (8-5/16 to 54 in.)	210 to 1117 mm (8-5/16 to 44 in.)
Width of material that can be cut off		210 to 1625 mm (8-5/16 to 64 in.)	210 to 1371 mm (8-5/16 to 54 in.)	210 to 1117 mm (8-5/16 to 44 in.)
Conditions for usable materials		Maximum material thickness: 1.0 mm (0.039 in.) (When head is raised) Maximum diameter for roll material: 180 mm (7-1/16 in.) Core inner diameter for roll material: 50.8 mm (2 in.) or 76.2 mm (3 in.) Maximum weight for roll material: 20 kg (44.1 lb.)		
Ink cartridges	Pigmented ink	Use only pigmented ink cartridge exclusively for use with the Hi-Fi JET		
	Capacity	220 cc ±5 cc		
	Color	The four colors black, cyan, magenta, and yellow or the eight colors black, cyan, magenta, yellow, orange, green, light cyan, and light magenta		
	Dye-based ink	Use only dye ink cartridge exclusively for use with the Hi-Fi JET		
	Capacity	220 cc ±5 cc		
	Color	Cyan, magenta, yellow, and black		
Apparent colors		16.7 million colors		
Printing resolution (Printing dot resolution)		1440 dpi x 1440 (*1) dpi / 720 dpi x 1440 (*1) dpi / 540 dpi x 1080 (*1) dpi / 1080 dpi x 1080 dpi / 720 dpi x 720 dpi / 540 dpi x 360 dpi		
Distance accuracy		Error of less than ±0.3% of distance traveled, or 0.3 mm, whichever is grater (at Roland PET-film, print travel: 1 m (39-3/8 in.))		
Printing heads cleaning		Automatic cleaning and manual cleaning		
Interface		Bidirectional parallel interface (compliant with IEEE 1284: ECP mode) and Ethernet 10Base-T or 100Base-TX		
Instruction system		RD-RTL, RD-PJL		
Power-saving function		Auto-sleep		
Power consumption	Printing mode	Maximum: 1.3A/100V to 240V ±10% 50/60 Hz		
	Standby mode	Maximum: 0.5A/100V to 240V ±10% 50/60 Hz		
Acoustic noise level	Printing mode	60dB (A) or less (According to ISO7779)		
	Standby mode	40dB (A) or less		
Dimensions	Main unit	2500 mm [W] x 631 mm [D] x 410 mm [H] (98-7/16 in. [W] x 24-7/8 in. [D] x 16-3/16 in. [H])	2246 mm [W] x 631 mm [D] x 410 mm [H] (88-7/16 in. [W] x 24-7/8 in. [D] x 16-3/16 in. [H])	1992 mm [W] x 631 mm [D] x 410 mm [H] (78-7/16 in. [W] x 24-7/8 in. [D] x 16-3/16 in. [H])
	With stand	2500 mm [W] x 740 mm [D] x 1241 mm [H] (98-7/16 in. [W] x 29-3/16 in. [D] x 48-7/8 in. [H])	2246 mm [W] x 740 mm [D] x 1241 mm [H] (88-7/16 in. [W] x 29-3/16 in. [D] x 48-7/8 in. [H])	1992 mm [W] x 740 mm [D] x 1241 mm [H] (78-7/16 in. [W] x 29-3/16 in. [D] x 48-7/8 in. [H])
Weight	Main unit	113 kg (249.1 lb.)	102 kg (224.8 lb.)	93 kg (205 lb.)
	With stand	124 kg (273.3 lb.)	117 kg (257.9 lb.)	108 kg (238.1 lb.)
Environment	Power on	Temperature: 15 to 32°C (59 to 89.6°F), Humidity: 35 to 80% (non-condensing) (*2)		
	Power off	Temperature: 5 to 40°C (41 to 104°F), Humidity: 20 to 80% (non-condensing)		
Included items		FJ-600/500/400 main unit: 1, stand leg: 1, caster flats: 2, media guide: 1, media cover: 1, stays: 2 (for place the media guide), bolts (large): 14, bolts (small): 4, hexagonal wrench (M6): 1, pipe: 1, media flanges: 2, flange retaining pins: 2, washers: 6, drain bottle: 1, replacement blade for separating knife: 1, media clamps: 2, cleaning kit: 1 (cleaning sticks: 10, tweezers: 1 pair, and sponges: 10), power cord: 1, Roland-PrintServer CD-ROM: 1, Roland-PrintServer for Macintosh users: 1, Roland COLORCHOICE®: 1, user's manual (this document): 1, and unpacking, assembly, and installation guide: 1		

(*1) Apparent resolution by using variable droplet control.

(*2) Environment



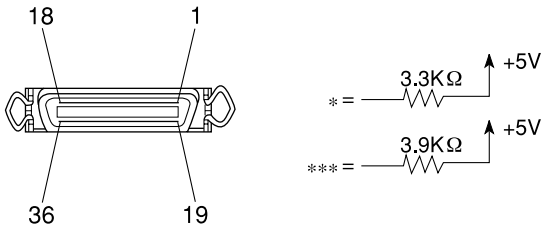
Interface Specifications

Standard	Bidirectional parallel interface (compliant with IEEE 1284: ECP mode)
Input signals	$\overline{\text{STROBE}}$ (1BIT), DATA (8BITS), $\overline{\text{SLCT IN}}$, $\overline{\text{AUTO FEED}}$, $\overline{\text{INIT}}$
Output signals	BUSY (1BIT), $\overline{\text{ACK}}$ (1BIT), $\overline{\text{FAULT}}$, SLCT, PERROR
Level of input output signals	TTL level
Transmission method	Asynchronous

Parallel Connector

Signal number	Terminal number		Signal number
$\overline{\text{SLCT IN}}$	36	18	HIGH***
HIGH*	35	17	GND
NC	34	16	GND
GND	33	15	NC
$\overline{\text{FAULT}}$	32	14	$\overline{\text{AUTO FEED}}$
$\overline{\text{INIT}}$	31	13	SLCT
GND	30	12	PERROR
	29	11	BUSY
	28	10	$\overline{\text{ACK}}$
	27	9	D7
	26	8	D6
	25	7	D5
	24	6	D4
	23	5	D3
	22	4	D2
	21	3	D1
	20	2	D0
	19	1	$\overline{\text{STROBE}}$

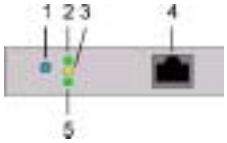
Pin Connection



Network Interface Specifications

* For detailed information about the network interface, take a look at the "Roland-PrintServer User Manual."

Control Area



1. Button
2. Green, ready mode LED
3. Yellow LED receive data and error indicator
4. RJ-45 connector for 100Base-TX and 10Base-T
5. Green, link LED

RJ-45 (Ethernet) connector

Pin	Assignment	Input or output
1	RX+ (Receive)	IN
2	RX- (Receive)	IN
3	TX+ (Transmit)	OUT
4	-	-
5	-	-
6	TX- (Transmit)	OUT
7	-	-
8	-	-

10Base-T Ethernet network cable specifications

Data	Values
Max. cable lenght	100 m
Cable type	S/UTP Type "category 5"
Impedance	100 Ohm
Connector type	RJ-45

100Base-TX Ethernet network cable specifications

Data	Values
Max. cable lenght	100 m
Cable type	S/UTP Type "category 5"
Impedance	100 Ohm
Connector type	RJ-45

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